

THE
ASSYRIAN HERBAL

BY

R. CAMPBELL THOMPSON, M.A., F.S.A.,

FELLOW OF MERTON COLLEGE, OXFORD.

A MONOGRAPH ON THE ASSYRIAN VEGETABLE DRUGS,
THE SUBJECT MATTER OF WHICH WAS COMMUNICATED
IN A PAPER TO THE ROYAL SOCIETY, MARCH 20, 1924.



1740

LUZAC AND CO.,
LONDON,

1924.

Gallas

IDQ.AAI (folios)



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MATERIA MEDICA, Vegetable : Ancient
HERBALS : Ancient
ASSYRIAN MEDICINE.

Galls


1DQ.AAI (folios)

43352



To

My Wife
who shared



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THE ASSYRIAN HERBAL

§ 1. INTRODUCTION.

The following study of ancient Assyrian vegetable drugs is based on (a) approximately 120 fragments of cuneiform plant-lists, from Rawlinson's W.A.I., or my copies in CT. XIV; (b) my copies of 660 medical tablets in my Assyrian Medical Texts; (c) previous publications of medical texts^①

I have been fortunate in being able to refer to my two friends, Mr. T. Gambier-Parry, of Bodley's Library, and Mr. Ernest Stenhouse, B.Sc. for their help in numerous botanical problems which I was not competent to solve. I am also indebted to Mr. Sidney Smith and Mr. C.J. Gadd of the British Museum for their ready help. Particularly would I thank Dr. A.E. Cowley, Bodley's Librarian, for his never-failing encouragement during the writing of this small book, and through him the courtesy which Bodley's Library always

^①For a list of these see the Preface of Assyrian Medical Texts. Meek, RA, 1920, 179, 181, published S. 1701, a duplicate of PL. 10. Ebeling's KAR No. 202 is a duplicate of PL. 23, K. 259.

extends to Students. To Professor Langdon I owe many references to material which I have incorporated.

Difficulties in printing a monograph for which there is only a limited public, (with which Assyriologists will sympathize), have rendered this form of production imperative. It cannot, however, be said to be satisfactory; on the other hand, the material offered is chiefly in the form of a work of reference, which does not demand continuous reading.

§ 2. THE METHOD FOLLOWED.

It has long been obvious that the medical texts lack their chief interest without a wider understanding of the drugs prescribed^①. Of these drugs the most numerous are vegetable; and therefore, before the texts in AM were translated, the first essential was to make a co-ordinated study of the plants.

^① Many of the translations of these drugs, which were commonly accepted, were unsatisfactory. I have tried to shew that kukru is not chicory, but fir-turpentine: kasû not cassia, but rose: karšu not leek, but cherry: sagilatu not cyperus, but an alkali plant: ballutku not oleander, but *ferula communis: haldappânu not rhododaphne, but mustard: armânu not pomegranate, but apricot: saḫlu, not aress, but lolium: HUL.GIL not "stink-cucumber," but poppy.

The method which I have adopted in these pages in discussing the large number of plants in the Assyrian Herbal (approximately 250) is as follows:

—(1) A tabulated list was made of the occurrences of these drugs in the 660 tablets of AM, the latter being adopted as a definitely restricted, and yet ample basis for a proportionate calculation of the relative popularity, rarity, or other factor, of the 250 vegetable drugs employed by the physicians. It is obvious that the diseases for which these drugs were used, and the way in which such medicines were prescribed, would throw great light on the properties of the drugs, whether anodyne, narcotic, cathartic, etc.

—(2) The next source of information was the plant-lists which I had copied some twenty years ago, to be published in CT. XIV, most of these being lists of plants with medicinal value. Herein the Assyrian Botanists had collected a great number of synonyms and equivalents for the different plants, arranged them in a definite order, and not infrequently added illuminating little notes of their own.

—(3) Leaving the native Assyrian sources, I found that the drugs in the Index of Budae's Syriac Book of Medicines, when arranged in the order of their frequency, afforded some idea of what might be expected.

—(4) It remained then to co-ordinate and apply

iv.

§ 2: § 3.

The above data by comparison with the modern flora of Mesopotamia, and with the drugs of Oriental and Classical writers: as well as with those in the modern Pharmacopoeias, both European and Oriental, in their parallelism of use: and particularly by philological comparison with other Semitic languages.

§ 3. THE ARRANGEMENT OF THE MATERIAL:—

§ 4. A Table of Proportionate Occurrences of the drugs in the 660 tablets of AM.

§ 5. A List of all the vegetable drugs occurring more than 5 times in AM, with the number of times they occur, and the order of their frequency.

§ 6. The Botanical Order, according to certain semi-medical lists.

§ 7. Notes on the borrowing of Assyrian plant-names into the languages of the West, and remarks on the methods of the Assyrian scribes in their botanical works.

§ 8. Critical notes to my copies of the Plant-lists in CT. XIV. Since the publication of this volume I have made many fresh joins.

§ 9A-CU. The chief Plant-lists in CT. XIV in transliteration.

§ 10A-CT: Notes and identifications of the drugs in § 9, with their uses in Medicine.

§ 10 cu - 21. The Gums and Gum-resins ①

§ 22 - 51 The Trees.

§ 52 - 72 Various Plants.

§ 73 - 86. The ŠE Groups.

INDEX.

§ 4. PROPORTIONATE OCCURRENCES OF DRUGS:

The following is a table of Assyrian drugs used in the medical texts in AM: -

(The figures are given in round numbers, approximately);

| DRUGS | SPECIES | OCCURRENCES |
|-----------------------------------|---------------|----------------|
| Vegetable | 250 | 4600 |
| Mineral | 120 | 650 |
| Other, and unidentified | 180 | 630 |
| Totals | 550 | 5880 |

To which must be added -

ALCOHOLS -

| | |
|---|-----|
| KAŠ (šikaru) various | 300 |
| KAŠ ŠAG (kurannu) | 100 |
| GEŠTIN (grapes, wine) various | 90 |

OTHER SUBSTANCES

| | |
|------------------------------------|-----|
| FATS (various) | 170 |
| OILS (NI, NIŠIŠ = šamnu) | 340 |
| HONEY | 80 |
| WAX | 30 |
| MILK (various) | 40 |

① I am indebted to Messrs Dolbear and Goodell of Oxford for specimens of these

§ V. PROPORTIONATE OCCURRENCES OF PLANT-DRUGS:

The following list contains the relative frequency of occurrences of all vegetable drugs occurring in AM more than five times.

It is obvious that many drugs may be 'rely identified', and yet there may be uncertainty about the exact species. For instance, turpentine comes from many of the conifers; the gums are not easily distinguishable: the chamomiles and daisies are similar. It is probable that the ancient Mesopotamian peasant was as hazy about exact identifications as the modern Arab, whatever the schoolmen may have been. At the same time ^{it would be misleadingly} to append a question-mark to every identification which was slightly in doubt, and therefore I propose to use the following system of marks appended to drugs to denote their probability: (1) When nothing is added the identification may be regarded as certain: (2) When there is an asterisk *, a very slight doubt about the exact species, or, a slight variability possible owing to there being a closely-allied candidate for the same drug: (3) Two asterisks **, some doubt about the identification, but reasonable plausibility: (4) A query, (?), for real and justifiable doubt.

The number of times the plant occurs in AM is given in brackets: An(N) is appended to:

those which I believe to be new identifications.

1. Burašu (202) Pinus, Pine-turpentine.
- (N). 2. Kukurū (193) Abies, Fir-turpentine.
- (N). 3. Kasû (181), Rosa
4. Erinu (including erinu BAD) (148), Cedrus.
- (N). 5. Saḥlu (134) Lolium.
- (N). 6. Imḥur-pani (š1.š1) (114), ** Calendula,
* * Heliotrope.
7. Bînu (106), Tamarix.
- (N). 8. UD (= ḥil sarbati) (101), * Styrax, * Styx.
9. Ninû (100), * Ammi or similar Umbellifer.
- (N). 10. Ḥaldappānu (HAR. HAR) (96) (including Ḥallulāia
(1), Sinapis.
- (N). 11. Baluḥu (92) * Galbanum.
- 12, A. Uḥulu (87) Alkali (vegetable).
- 12, B. KUR. KUR (87) * Hyoscyamus.
14. Murru (85), Myrrha.
15. Saluppu (84), Dactylus.
- (N). 16. Nuḥurtu (74), Asafoetida.
17. Imḥur-ašrâ (š1. MAN) (68), similar to
No. 6, Imḥur-pani.
- (N). 18. Nikiḫtu (65), * Liquidambar orientalis, Mill.
19. Kanû ḫābu (63), * Acorus calamus, L.
- 20, A. Tarmuš (62), Lupinus termis, Forsk.
- 20, B. Lišan kalbi (62), Arnoglosson^①
- (N). 22. Urnû (57), * Mentha.
23. Šunû (56), Vitex agnus castus, L.
24. Šimru, Šimrānu, PI. PI (51), Foeniculum
officinale, all.

① Add next ** Ricinus (Sagabegalu, AG. UD, AT. KAN (=60)).

25. Šurmēnu (49), Cupressus.
- 26A. Karan šelibi (48), *Solanum.
- (N). 26B. AG.UD (48), * * Ricinus. (See p. VII, n. ①)
28. Imbû tâmtim (47), Fucus(?).
- (N). 29. LI.TUR, LI.TAR, abukatu (45), Andropogon(?).
- 30A. ŠE.BULUG (44) Millet.
- (N). 30B. Balukku (44) * Ferula communis, L.
- (N). 32. Dilbat (43) Anthemis, Bellis.
- ① 33A. HUL.GIL, irrû, ~~ararianu~~, (42), Papaver, opium (see also GUR.UŠ, 68c).
- 33B. Šûšu (42), Glycyrrhiza.
35. Êru (41), Laurus.
- (N). 36A. Nurmû (40), Pomegranate.
- (N). 36B. EL (arzallu) (40), Crataegus Azarolus(?).
- 38A. ZI(D). GIG (35) * Wheat-flour (+ ŠE.GIG, (2)).
- 38B. ZI(D). KU (35) Fine-ground flour.
- (N). 40. Tîru (34) * Gum of Pinus Halepensis.
- (N). 41A. Šapru (25), kamantu (7) (= 32), Rhus coriaria, L.
- (N). 41B. NAMTAR (IRA) (32) * Mandragora officinarum, L.
- (N). 43A. Šumlalû (31), Nerium odorum, Sol.(?).
- (N). 43B. Kanaktu (31) * Opopanax.
45. Ašagu (30), Spina, esp. Lycium, Rhamnus.
- 46A. Suadu (29).
- 46B. Kurkanû (29), Curcuma longa, Turmeric.
- 48A. Siĥu (28), Artemisia.
- (N). 48B. Azallû (28) * Cannabis, Hemp.
- (N). 48C. Kan šalali (28), * * Conium maculatum, L.

① Part new. To Haupt must be given the credit of irrû

- (N) 51. Arganu (27) (a gum similar to bariratu, No 60.)
 ***balsam or ***balm of Gilead
52. Gišimmaru (26), Phoenix dactylifera.
- 53, A. Kitû (25) Linum.
- (N) 53, B. Mašlakal (25) Savin (?)
- 53 C. Ell(i)gulla, MUH-gulla (25)
- 56, A. ZIZ.A.AN (24), Triticum dicoccum, Schr.
- 56 B. Zibû (24), Nigella
- 56, C. Šamaššammu (24), Sesamum.
- 56, D. ŠE.SA.A (24) parched corn.
60. Bariratu (23) (= also ⁱHUM.HA? No 99 B)
 * Sagapenum, * Ferula Persica Willd.
- (N) 61, A. Kurban ekli (22), Anthemis, Chamomila.
- (N) 61, B. Nusabu (16), Âr kaspi (3), Zim kaspi (1), Âr
 hurasi (1), Iluru samu (1) (= 22), Anemone
- 63 A Kutru (21).
- (N) 63 B Supalu (21) (see Zabalum (4), Juniperus
 excelsa, M.B. 9 27) ***manna
- (N) 63, C. (21(D)). GÙ.DU (21) Trigonella Foenum graecum, L.
- 66, A. (21(D)). GÙ.GAL (20), & lathyrus
- 66, B. Baltu (20), Capparis.
- 68, A. Azupiranu (18), Crocus, Saffron.
- (N) 68, B. GÜR.UŠ (= sarmadu) (18) * Papaver (see HUL.GII.
 No 33 A).
- (N) 68, C. AŠ (18) Asa foetida
71. Kursipti ekli (17), Urtica.
- 72, A. Tarhu (16).
- 72, B. Hašû (10), hašanu (6) (= 16) Thymus.
- (N) 72, C. Kankadu (16) γιγγιδίου (?)

x.

85.

- (N). 72, D. Imdu (16) Cupressus of the Cemeteries.
(N). 76, A. MI. TAK (15) Nerium oleander, L. (?)
(N). 76, B. U. GIR. GIL (15) (= dadanu) Gum Arabic (?)
(N). 78, A. Tiyâtu (14), Asafoetida.
78, B. Šurdunû, si. di, gimgiru (14) Eruca.
78, C. Kiškiran buraši (14), **gum^{**}, pitch^{**}, tar.
78, D. Asu (14) Myrtus.
82, A. Haškuru (13), Pomus.
82, B. BAR. HUŠ (13)
(N). 82, C. Ankinuti (13) **Oenanthe.
82, D. Šiburratu (13) Ruta
86. Ašî (12)
87, A. Tuâmu (11)
87, B. Ša-niš or Ša-u-u (11).
(11). 87, C. Pukuttu (11) Carduus.
87, D. Urbatu (11) (etc.), Cyperus (etc.)
(N). 91, A. Iltakku, adaru (10) * * Citrus.
(N) 91, B. AT. KAN (10) * * Ricinus (see p. VII n. 10)
91, C. Dapranu (10) Juniperus drupacea, Labill.
(11). 91, D. LAL (10). ~~Cantarus tinctorius, L.~~
91, E. HAR. HUM. BA. ŠIR (= baḥrû) (10).
96, A. Sašumlu (9).
96, B. Šimeššalu (9), Buxus (?)
96, C. Lidrušu (9).
96, D. TU. LAL (9).
96, E. Annuhara (3).
101, A. GIŠ. ŠAR (8)
101, B. HUM. HA (= bariratu?; No. 60) (8).
101, C. Šûmu (8), Allium.

- (N). 101, D. Ešû (8), *Acer, Maple.
 105, A. UR. PI. PI (7)
 (N). 105, B. Šalluru (7), Mespilus Germanica, L.
 (N). 105, C. ila šamši (7) *Anacyclus Pyrethrum, D.C.
 (N). 105, D. NAM. TIL. LA (7). Opium?
 105, E. BAT. TAR (7)
 105, F. i GIL (= pagratum) (7), Gall-nuts.
 III, A. AŠ. PI. PI (6)
 III, B. Kamunu (6), Cuminum.
 III, C. Karašu (6) Allium porrum, L.
 III, D. šemuš, šē. šis (šaššugu) (6).
 III, E. Ma-eres-ma-la (or-ra). (6).

§ 6. ORDER.

An examination of the Plant-lists shews that the ancient botanists adhered in the main to a definite arrangement. The group of semi-medical plant-tablets of CT. XIV, 10, 42, 44 and S. 1701 (Meek RA, 1920, 181), etc., covers a wide field of plants which coincide in the order in which they are arranged. This order will be seen to be maintained in general in the plant-lists proper (CT. XIV, PLS. 18, ff : § 9); with this proviso, that the latter are far fuller and contain sections dealing with plants which are omitted in the former. At the same time, the two systems cannot always be reconciled.

It is an intelligent and methodical arrangement. The Assyrian botanist had a very

fair capacity for dividing his herbal into classes according to his needs. He begins, logically enough with the grasses.

But he does not appear to have arranged his plants according to our ideas of botany. He follows the grasses with rushes and Euphorbiaceae, reasonably enough; but he will group the Papaveraceae and Cucurbitaceae alongside each other because the names for the principal plants begin with the sign HUL. He scatters Compositae throughout his series.

All this is quite intelligible, and entirely in keeping with what we know of Assyrian method. It is the arrangement of a rather superficial, but laborious, cataloguer. But the more the subject is studied, the more obvious appears to have been the great knowledge possessed by the doctors and chemists of Nineveh.

The following is an attempted arrangement of the order of plants in CT. XIV, 10, 42, 44; S. 1701, K. 1920, 181; and similar texts. The arrangement cannot be said to be certain, but at least it forms a working basis. Indeed, ultimately it may be found that the tablets which appear to be duplicates are not really so. In S. 1701 and CT. XIV, 10 the det. is^u "tree" replaces "plant".

— Probable beginning: K. 4431, PL. 27; K. 4163, and K. 8807, PL. 42: ll. 1-7:—

| | | |
|-----------------------|--------------------------|--------------------------|
| 1. ^u šu(?) | 3. ^u mundinnu | 5. ^u šumuttum |
| 2. ^u bi | 4. ^u EL | 6. ^u ingu |

7 "kankadu (89BF, 428).⁸⁶

Possible continuation,

K. 4140 B, PL. 42:

K. 4152, PL. 44;

K. 4218 A, PL. 10;

K. 11386, PL. 42:

S. 1701, RA. 1920, 181.

U. 8 - 44.

8. "šukru

9. "NAM.TAR

10. "kašū

11. "ataktum (89D, 17)

12. "sahlu (89CO, 692)

13. "tarmuš (p. 276).

14. "kaššu šAR^① (89CN, 682)

15. "kamun i'bi

16. [u]..ku(?)-la-lum^②

17. [u]pukuttum (89AU366)

18. [u]nibi^③ i'balti

(89AD, 249).

19. "GUR.UŠ^④ (89K, 93)

20. "GUR.DINGIR.BABBAR^⑤

21. "kazallu^⑥ (89C, 2, 10).^{XIII}

22. "išbaltu (89C, 8).

[K. 11386 begins, PL. 42]

23. "UD (between 89 AK-AL, see pp. 16, 261).

[K. 4140 B, PL. 42, begins]

24. "šamu^⑦ šamu (89AQ)

25. ["GI.GIL arku only on K. 4218 A]

26. "mārat ekli (89I, 80)

27. "elat ekli (89BY, 592)

28. "anunutu (89D, 21).

29. "adumatu (89J, 86).

30. "utnū sāmu (89L, 97).

31. "zibū (89M, 112).

32. "arzallu.

33. "dadaru

34. "lapar armanni

35. "GI.GIL arku

36. "GI.GIL pišū (89P, 133).

37. "zim kaspi (89P, 147).

38. "zim furasi (89P, 140?)

39. "edu (89Q, 3).

① S. 1701 ... LA ② Var. for i'U.LAL, K. 4218 A and S. 1701.

Re-ax. ~~//////~~ ~~||||~~ ~~||||~~ ③ K. 4218 A, and S. 1701, i'ni-

bi- ④ Before this line K. 4218 A and S. 1701 add

(10) i'GIR.*NAG.GA.ša VII kakkadipe-šu (11) i'MUN.EME.ŠAL.

LIM. K. 4218 A reads i'GUR.UŠ. ⑤ S. 1701

du ša-maš. ⑥ K. 4218 A kazalla ⑦ K. 4140 B

and K. 4152 šami.

- 40. ^ušibburātu (89S, 171).
 - 41. ^ukamunu (89T, 174).
 - 42. ^uanameru (89U, 175)
 - 43. ^uhaldappānu (89V, 186)
- [End of Col. I, K4140B]

and K. 4152. The continuation (as one would expect from ^uKUR.RA, see PL.28) may be Col iii of K. 4163, PL.42, forming ll. 44-49.

- 44. ^uKUR.RA (89Y, 214).
- 45. ^ušguš[ti]
- 46. ^uišbatum (89c8)
- 47. ^uGI.GIB ...
- 48. ^uhaškar a[bi] (see p. 13)
- 49. ^uGI.GIB ab- ...

[The continuation may be K. 274 and K. 14351, PL.42, with S. 1701, forming ll. 50-80]

- 50. ŠAR
- 51. . . . -te GIŠ.ŠAR
- 52. . . . [tu]m GIŠ.ŠAR
- 53. GIŠ.ŠAR
- 54. [^uUR.PI].PI (see 89AP and p. 98).

- 55. [^uis]-pa-ri (89AQ, 342)
- 56. [^umārat?]ekli (cf. p. 262, l. 24, with l. 20 isparu)
- 57. [^ui]NAM. TAR
- 58. ^ukalbanu (sis)
- 59. ^uKU.MA.LAM (89AR)
- 60. ^uimbu tāmti (89AŠ, 353)
- 61. ^uazallū (89AT, 358)
- 62. ^uKUR. [KUR] (89AV, 376)
- 63. ^ukusibu
- 64. ^ukūiātu [S. 1701, col. ii begins]
- 65. ^upukuttu (89AU, 366)
- 66. ^ušasumtu (89AW, 389)
- 67. ^usihu (89BA 404)
- 68. ^ušamūšim (89BA 407)
- 69. [^u]suada (89BC, 411)
- 70. [^u]habšallurhu
- 71. [^u]kurkanū (89BK, 477)
- 72. [^u]hazalunū (89BL, 500)
- 73. [^u]pušpuhu (89BM, 506)
- 74. ^uamūše (89BI 456)
- 75. A ^uebizū (89BI, 453)
- B ^utakdananu
- 76. ^uKU. NIM (516)
- 77. [^u]uhulu karnanu (89BN)
- 78. ^ušahlanu (89BP 534).

① This appears to confirm the position of K. 4163 here. cf K. 4216, Pl. 20, XI, ll. 7-8. ② S. 1701 si-i-[hu]. ③ S. 1701 ha-zal-lu-... ④ S. 1701 omits ⑤ S. 1701 iu-...

79. "UR. [PI], PI

80. "al-[lum]-_ou81^①

[K.4140B, iii + K.14077

PL.33: K.4152, iii: K.8828

PL.26: possibly continue,

forming ll. 82-113]

82. "še-[e-du]^②

83. BAD GUD mu-

84. "dam-ka-[tu]

85. šer UR.BAR.RA

86. šE.RÙ arhu [ululi](?)

87. u AN

88. u GAB

89. u AN

90. u KI

91. u anê pl

92. u sêri

93. u šêdu^③94. "damkatu^③95. "šE.RÙ GIŠ.MA^③96. [šE].RÙ arhu ululi^③

97. "BAD.KA.KAL

98. "KA.BI.DI.RA(?)

99. "šE.RÙ

100. "binu

101. "HUL.TI. [GI.LI] (89AN, 319).

102. "šA.KUR. [RA] (89AN 320).

103. "hi-ti-

104. "TU. [LAL?]

105. "su-a-[di?]

106. "KAL.A. [BI]

107. "inib šadi^①] (89AA, 215).

108. "hil a- (89AB, 239?)

109. [U]š.E. EL[šAR] (89BK,
499).110. " . . . -gi- (cf. 89BN,
520).

111. "

112. "

113. "KA.LUM.MA

[K.4140A, PL.28: K.
4218A, iii; PL.10: aug-
mented from S.1701,
rev., and K.14060, PL.
26, form a connected
text, conceivably in con-
tinuation].

114. "in(?)

115. "safi-

① Uncertain gap. ② Restored from l. 93, one perhaps being redundant. ③ Additional on K.8828, and perhaps redundant.

116. ^upi. [pi] (89 N, 116)
 117. ^uka- ...
 118. ^upu- ...
 119. ^ue-ti- [i-lum?]
 120. ^uiš-ki- ...
 121. ^upu-ug- [lu] (89 BV, 570)
 122. ^uga-su [um-ti] (89 AW, 390)
 123. ① ^uel-lat ekli (89 BY, 592)
 124. ^uNUNUZ ekli ②
 125. ^uKAN.ME ekli (cf. 89 CC, 608)
 126. ^uKAN.ME arku
 127. ^uKAN.ME agurru
 128. ^ušibutu
 129. ^uarriana (cf. 89 I, 80)
 130. ^uKAK.KU.UŠ ...
 131. ^uAMA.A.[NI] (89 CH, 636)
 132. ^uTUR.A.[NI] (89 CH, 638)
 133. (u) UR.A. NI
 134. (u) ur-batu (89 B, 2)
 135. (u) zir ur-b[a-ti]
 136. (u) kur- [gu] (89 B, 4)
 137. (u) šumru (89 N, 116)
 138. (u) šgu- u[š-li] ④
 139. (u) gul-gul- [a-nu] (89 AG, 270).

① Before this line K. 4218, A, adds ⁱan(?) - ga(?) - [ru?]: cf. K. 14059, PL. 26. ② S. 1701 i

③ K. 4218, A, adds a line ⁱkurban ekli, K. 4140, A replaces ^uNUNUZ ekli by ^ukurban ekli, K. 14062 has both. The

position of ^uNUNUZ ekli compared with 89 CB indicates rather that NUNUZ = kamti. ④ Cf. ^ušgušti arku, KAR_A 203, IV, 61.

[At some subsequent points, Col. IV(?) of K. 4140

B, (140) ^uši-... (141) ^uut-...

(142) ^uša-... ; and Col. IV(?) of K. 4152];

143. ^uKAK.KU.[UŠ?]

144. ^uni-bi- ...

145. šêr sâmu ka(?) - ...

146. šêr sâmu kur- ...

147. ^usu-na- [lu]

148. ⁱti-ya- [ru]

149. ⁱli-ya- [ru]

150. ^uka- ...

151. ka-za- ...

152. lu- ...

(Cols. V-VI(?) not included here.

§ 7. MIGRATION OF ASSYRIAN PLANT-NAMES.

Many of the Assyrian plant-names will be seen to have found their way, doubtless through merchants, into the Western languages:

| Assyrian or Sumerian | Meaning. | Western Language |
|--------------------------------|-------------------|-----------------------|
| ARMĀNU | "Apricot" | Armeniaca |
| ARZĀLU | [Crataegus | Azardus ?] |
| AŠ | "Aloe foetida" | Asos |
| ARUPIRĀNU ① | "Saffron" | (through Arabic) |
| AN. BAR | *"Liquidambar" | (through Arabic) |
| BALUHĪHU | *"Galbanum" | (uncertain) |
| BURĀŠU ① | "Pine" | βράσου, Βραχίς |
| ZI.Z.A.AN ① | Triticum dicoccum | ζιζάνιον |
| MUL.HI.LI.GA | "Colocynth" | [κολόκυνθις ?] |
| NARURU ① | ["Carob" ?] | (through Arabic) |
| KUDIMĒRĀNU | "Cardamom" | κάρδαμον |
| KAMUNU ① | "Cummin" | κύνινου |
| KANAKTU | *"Opopanax" | [ὀποπάναξ, πανάκη ?] |
| [KUNGU | See p. 32-33 | gongae of Berossus ?] |
| [KANKADU | | γγυγίδιον ?] |
| KURKANŪ ① | "Turmeric" | κυρκμα |
| KARŠU | "Cherry" | κέρασος |
| [KITŪ ① | "flax" | cotton ?] |
| LARBU ① | "lard" | λίπος |
| LASIRBITU | Silphium | lasepitiūm |
| [MANGU ① | Phaseolus ? | Mungo ?] |
| MURRU ① | "Myrrh" | μύρρα. |
| MIŠ.MA.KAN.NA } MUSURKANU } | "Mulberry" | συκίμινος |

① Long known or suggested.

| Assyrian or Sumerian | Meaning | Western Language |
|----------------------|----------------|------------------------|
| NUH VATU | "Asa foetida" | [νάρθηξ ?] |
| NANTAR IRA | "Mandrake" | μανδράγορα |
| NUŠHU | **"Almond" | [Nux ?] ① |
| PA. PA | "Poppy" | [papaver ?] |
| [PI. PI | "foetid"-plant | ΦΥ ?] |
| ŠARBATU | *"Styrax" | [strobilus, στρυδάξ ?] |
| ŠAMASŠAMMU ① | "Sesame" | σήσαμον |
| ŠURMEHU ② | "Cypress" | [τάρέβινθος ?] |
| TARMUŠ ① | "Lupin" | θήρμος |

The following are the chief foreign words definitely explained as such in the Lists:—

- § 9AA ABITU: a thorn in Phoenicia (𐤀𐤁𐤈𐤕).
- § 9G. BULALU Opium-poppy (Šubari) (𐤁𐤁𐤀 "confuse").
- § 9D. AH3. BULALU ** Oenanthe, (Šubari) (𐤁𐤁𐤀).
- P. 261 BU'SU ** Ricinus, (Ahlamê) ("the nasty drug").
- P. 264 IAPUTU Asa foetida, (Ahlamê).
- P. 261 MI-MU(?) - BIR ** Ricinus, (Akkad).
- P. 273 HARAZIAŠ Cardamom (Hatti).
- P. 264 KANZŪ Asa foetida, (Šubari).
- § 9J. KANAŠŪ Opium-poppy, (Persian Gulf).
- § 9AA KURBASĪ, a thorn in Šubari
- § 9AA []ŠAK(K)KU and KUŠABKU, a large thorn (Phoenicia).
- § 9N PI. PI [fennel] for cough (hahi), Akkad
- § 9AA ŠAMTU, ŠAMTU Thorn (Egypt) 𐤃𐤁𐤈𐤕.
- § 9E TULDI Fenugreek (Šubari) (𐤁𐤁𐤀)
- P. 261 ŠAGABIŒALZU ** Ricinus (Elam).
- § 9BC 2 TUŠKAR... * Sagapenum (Šubari)

① Long known or suggested. ② Cf. Iskander, Alexander
③ Uncertain.

On the other hand Assyrian appears to have borrowed certain words: budūlku, bdellium; laḏiru (? attar of roses?), liaru (Juniperus Oxycedrus, L.), lardu (nard)

A study of the plant-names shews numerous variations from the equivalents in other languages, when the liquids l, m, n, r, are components: e.g., lardu (nard), šilurtu (لِسور), kunipku (كُنَيْبَكُ?),^① anameru (انامير?),^① liaru (Ar. 'ar'ar),^① zabalum (Ar. lizzāb),^① iltakku (إلتاك?),^① nušku (نِشْكُ?),^① arzallu (azarolus?),^① šalluru (شالور), kurkanū (curcuma), bisru (بِسْرُ), ḥasar-ratu (حَسَارَاتُ?),^① murrū (مُرْرُ?),^① sarmadu (سارماد?),^① labiše (لابِش?),^① saqilatu (ساقيلات?),^① uššurāti (أششورات?),^① kullāru (كُللار?),^① balūḫku (بالوخك?),^① urkarinnu (وركارين?),^① mušku (مِشْكُ?),^① halluru (هاللور?),^① kudimeru (كوديمير?),^① pillū (Ar. luffah),^① NAM.TAR.IRA (نم تار ايرا),^① musukkanu (مُسُكَّانُ?).^①

št is curious: ḥašḥuru, long known as ~~كوشور~~, would lead us to identify nušku with ~~نِشْكُ~~, and antakḥsum with ~~انتاكحسوم~~, even if there were no other reason.

Sex in plants was recognized, but apparently only in the date-palm properly. But the term "male" is applied to ašlu (Cyperus), NAMTAR (mandrake) and "male" and

^① These are new identifications and will be found under their respective sections.

"female" = nikištu (liquidambar orientalis, and šam.uš): the "male" ašlu may have been so specified when a particular kind of this rush was needed to plait in a charm, the mandrake has a fruit which leads the Arabs to call it "Devil's testicles", which explains the "male" definition; and finally, we must see in "male" and "female" liquidambar the shape of its gum, just as frankincense is so defined in Pliny (see § 15).

A word should be said on the formation of the plant-names. A large number end with an additional -u (after the usual trilateral root): ararû, kurnû, urnû, hurnû, kanašû, namharû, azallû, alapû, as well as šurdunû and kurkanû. The addition of -anu often appears to mean a product of the plant, although it is not by any means certain: ~~ararianu, from ararû~~ "poppy", šamrânu by the side of šimru (fennel), aštabelanu from aštabelu, dadanu from dadâ, barilanu from barilu; zibibanu by the side of zibû, azupiranu and azupiranitu from azupiru, and perhaps kursimanu from [ku?]ru-simati (§ 930, 551-552). In other cases the original does not occur, but we find šallapanu, šišanu, kanipanu, papânu, haldappânu, hosisânu, gubgullanu, zukikipânu, kakadanu.

Another form, not so easily explorable, ends in ku: elammaku (wood of Elam?), ahulabaku (from the "ahulap-plant"), ašlukatu (a feminine

from ašlu), abukatu (a feminine from abu), haš-
kuraku ("tannin" from haškuru).

THE PLANT LISTS. The Plant-lists in CT. XIV are divided into sections, giving synonyms and explanations in double columns. Each section as a rule is devoted to a particular plant or series of similar plants, other plants being sometimes included on more academic grounds.

Determinatives: ①

U, šammu is applied as determinative to plants, but it has also acquired the meaning of "drug" and almost "dye" (§ 10 A.1).

GIŠ, iku is the determinative of tree or wood.

ŠIM is the determinative generally for aromatic shrub or plant.

GI is the determinative for reeds, or apparently jointed stalks.

Special words: -

HĪLU (A. DAN = "strong water"), Holmā (KB 9) correctly "gum". It is used of abukatu, kiyātu and nuhurtu (both "asafoetida"), sarbatu (*"styrax"), baluhhu (*"galbanum"), nikihtu (*"liquidambar"), ušū (*"maple"): "Aš is described as hīl hahtu (§ 10 W), and "hīl u. GIR as "hīl šimtat[e] (§ 9 AB, l. 239).

Pn (arlu), ~~---~~ "tops" or "twigs" (^{even} "juice", ② as the essence) which shoot forth (𐎢𐎥). It is used

① In the following pages for the purpose of brevity, I have used ^u ⁱ ^š for the first three

② So used herein.

constantly of trees (fruit and otherwise) and plants. E. g., the "tops" or "twigs" of the palm are of no medicinal value: the "tops" or "twigs" of the poppy are hardly the seed-capsules, the reference being to the inspissated juice. It is used of medlar-tree, pomegranate tree, apple, fig, almond, *lemon (iltakku). Also it must be the "juice" of the licorice which is indicated.

URKITU, "leaf", is used of karan šelibi (a solanum), lišan kalbi (arnoglosson), nirmû (ammi), EL (elia), suadu, supalu, būnu (tamarisk), *LAM, NAM.TAR (inandragera), kan šalali (conium?), šasuntu, azupiru (saffron), šūnu (garlic). The peculiarity is that it occurs as urkit-su, following its plant.

INBU, "fruit" is used of HUL.GIL (poppy), harubu, nirmû (pomegranate), BARTHUŠ, šūšu (licorice), karāšu (leek).

IŠDU, "root" used constantly.

MÊ, "water", is used of karan šelibi (a solanum), lišan kalbi (arnoglosson), kašî (rose), kukru (fir-turpentine), būnu (tamarisk), šunû (vitex agnus-castus), saluppu (dates), nirmû (pomegranate), GESTIN (G. DANGA and G. BIL), sahlê (lolium), urnû. It would thus appear to mean "water + the plant", rather than the natural juice =

"Rose-water", "tar-water", "date-water" (not juice so much as water in which dates have been steeped), "pomegranate-water", "lolium-water" represent a more natural translation than "juice". "Water of urnû" is very near the modern "dill-water".

ŠE, RÙ = nibi' (from ŠE, RÙ'NIM, which must surely be the equivalent of 'ni-bi-' NIM, § 6, l. 18), or šitlu (SA 5445) = 𐎲𐎠𐎺, a shoot (MA 1133); or piṛ'u (SA 5444), or zikpu (SA 5441). "As the dead man passeth not the gate of life, as the untimely birth sucketh not the breast of its mother, as zēr ŠE, SA.A (seed of roost² corn) makes no ŠE, RÙ (shoot)" (ET. XXIII, 10, 16, ff.). It is used in AM. of HUL.GIL, lišan kalbi, dilbat(??), ašagu, baltu, kašū, 'GIL, etu, sunū, AT. KAN, kan šaloli, in some of which, e.g. "rose-bud", "caper-bud" would appear to be the more exact translation.

Occasionally we find the writers of the plant-lists adding explanatory comments. The most important are those indicated by the word utliš.

Utliš is clearly an adverb from utlu "the lower part" = 𐎲𐎠𐎺, 𐎲𐎠𐎺. An examination of the occurrences of utliš will shew that it means "vulgo, in the mouth of the common people," utlu being here paralleled by 𐎲𐎠𐎺 "men of the lowest condition:" e.g., ararū utliš | "lululu^① sāmītu (§ 9 I, l. 83) "Poppy, vulgo red lululu-flower," just as any modern Arab will call any flower 𐎲𐎠𐎺 "rose". Similarly [ušišnu utliš | "urbate], "Butomus-rush, vulgo cyperus" (§ 9 AJ, l. 291); cf. § 9, AG, l. 267; ib. 276; 9 AP, l. 326, 327; 9 AT, l.

① Lulutu, § 10 G; 10, 3, footnote p. 41, Besides lāla used in India for poppy, Gerarde (305) says of the anemone that some are called "in Turkie toong" Lalé benzedé.

365: abc, 2, l. 9: 9bc3, l. 12. Other descriptions are:— the Colocynth, "like a ball" (§ 9H, l. 78): the opium-poppy "like mandragora". Children and women gather its juice" (§ 9J, l. 87, see p. 43): Cannabis, (binj) is "a drug for depression of spirits" (§ 9AT, l. 359): *Rhus coriaria*, sumach is "a drug for staining hides", and "for the appetite" (§ 9BG, ll. 440, 441). Descriptions by colour are also given, doubtless to facilitate identification: the "sîlum" is "like the isbattu, its fruit green and hard"; in the preceding line the isbattum has been described as "like the gall apple" which seems to indicate *Salvia pomifera* (§ 9C, ll. 9-10: see p. 36). Another plant has a green fruit (§ 9F, l. 42): another has a flower "like the chamomile, small and dark blue" (ib. l. 43). One of the Solanaceae(?) is a "flower of the woods, with red fruit" (§ 9Q, l. 156). The description of *hyoscyamus* as "heart-plant" indicates its intoxicating qualities.

Numerous foreign words from Subari, Kassî, Egypt, the Persian Gulf, etc., are introduced (see ante).

§ 8

CRITICAL NOTES TO CT. XIV.

The following critical notes should be used to emend and augment my copies of the Plant-lists in CT. XIV. I have made a re-examination of several passages, with several "joins" as the result.

— TABLET "A". PL. 18, K. 4354, PLS. 19-20, K. 4256 are parts of the same 16-columned tablet.

K. 4586 (PL. 31) + K. 4216 fills the left-hand gap on PL. 19. 82-5-22, 1777 (PL. 27) (part dup. K. 10126, PL. 39, and S. 1328, PL. 32, Meissner), and K. 8287 (PL. 39) are probably parts of the same tablet. Probable duplicate of the lost part, PL. 19, Cols. VII-VIII, end is Rm 356 (PL. 33). Similar texts, K. 271, PL. 35 and Bu 89-4-25, 112, PL. 43.

— TABLET "B". PLS. 21-22, K. 267, contents similar but in somewhat different order: + K. 4180B (PL. 32)

(obverse forms end of PL. 21, Col. I, after l. 22 (hiatus of 4 or 5 lines), and reverse, top of Cols. VIII, VII, the u being top line of Col. VIII). K. 4182 (PL. 34) belongs to the above, forming top of obv., Cols. III-IV (PL. 21) and bottom of Cols. VI-V (PL. 22). K. 14059 (PL. 26) may belong: K. 271 (PL. 35) doubtful.

— TABLET "C". PL. 25, K. 4398 (repeating part of end of "A") is part of K. 4345 (PL. 28). K. 9948 (PL. 37) belongs to the same tablet as the latter. K. 4412, PL. 24, rev. is part duplicate.

— TABLET "D". From the Colophon of "C", K. 4621 (PL. 27) is the next. + K. 10024 (PL. 32), l. 1 of the latter giving the end of l. 1 of K. 4621: + K. 4565 (PL. 34), l. 2, corresponding to l. 22 of K. 4621: K. 4417 (PL. 37) probably forms rev., and is duplicate of III-IV of "E". It is a tablet of 2 columns only. PL. 10, 82-5-22, 576 + PL. 31, K. 8249, "TU. UŠ. KAA" opposite "ina Šubari (l. 7).

— TABLET "E" PL. 24, K. 4412, dup. of K. 5424 B, (PL. 38), the latter + K. 11555 (CT. XVIII, 18), which fragment forms part of top of Col. II, and completes part of Cols I-II of PL. 24. PL. 34, K. 4169, may belong to K. 5424 B. PL. 25, K. 4398 part duplicate.

— OTHER JOINS, ETC. PL. 26, K. 14047 + top right-hand of K. 4566, PL. 29. K. 14822 to K. 10466 (PL. 32) the last line, *dil*, opposite the last bat. PL. 32, Rm. 36 + may belong to Rm. 356 (PL. 33), and Bu. 89-4-26, 112 (PL. 43) PL. 33, K. 9182, joined and published with K. 4325 and 79-7-8, 188 (Langdon, RA, 1916, 33). PL. 38, 79-7-8, 186 belongs to K. 4187, PL. 36. PL. 36, 81-2-4, 267 + PL. 45, 81-2-4, 472, *ekli* of l. 1 of latter corresponding to l. 10 of former, "šā-mi mi-sir lib-bi. Rm. ii 412 practically joins K. 4187 in its present position, "karan šelibi = ["šāmi šil lib-bi zi. (See KAR 203, VII, 28). Rm. ii, 497, PL. 41, prob. belongs. PL. 38, s. 8 may belong to K. 8791, PL. 41. PL. 42, K. 4140 B + K. 14077 PL. 33, the latter forming part of Col. III, the " of l. 15 of K. 14077 being shewn in traces on K. 4140 B. PL. 48, K. 9684 (not in CT. XIV) prob. belongs to Rm. 328.

— OTHER DUPLICATES. Many of the following were pointed out by Meissner in his critical article *MVAS*, 1906. PL. 10, K. 4218 A, dup. S. 1701, Meek RA 1920, 181; K. 14060, PL. 26, dup. Col. III; K. 14051 (PL. 40), dup(?) Col. VI: PL. 15, K. 240, and PL. 17, K. 4232. PL. 12, 93074

(read for 13074), duplicate of 38182 (CT. XII, 31).
 PLS 21-22, Rm. ii, 203, PL. 46, is part duplicate.
 PL. 23, K. 259, duplicate of KAR. 202. PL. 24;
 K. 4438B, duplicate of K. 9948 (PL. 37). PL. 25,
 K. 4429, duplicate of K. 4581 (PL. 31); K. 14060, dupli-
 cate of K. 4140A, Col. ii (PL. 28), and K. 14062 (PL. 42).
 PL. 27, K. 4431 duplicate of K. 8807 (PL. 42); K.
 4430 duplicate of K. 4180A (PL. 35). PL. 28,
 K. 4245, ll. 12-18, duplicate of K. 8829 (PL. 41) ll.
 1-6. K. 8667, etc., have been more fully done in
 CT. XIX, 50. PL. 31, K. 8846, rev. end, dup-
 licate of rev. of Rm. 364 (PL. 32), and S. 786
 (PL. 34). PL. 32, Rm. 364 belongs to the same
 tablet as Rm. 356 (PL. 33) and 89-4-26, i.,
 112 (PL. 43); K. 4180B is part duplicate of K.
 4419 (PL. 43); K. 4588 duplicate of K. 14053 (PL.
 31). PL. 33, K. 9160, part duplicate of PL. 45.
 PL. 37, Rm. ii, 479 possibly belongs to S. 8 (PL. 38).
 PL. 39, Rm. 352, duplicate of Rm. 328 (PL. 48).
 PL. 42, K. 274, duplicate of S. 1701 (Meek, RA, 1920,
 181); K. 14851, PL. 42; K. 4140B, duplicate of K.
 11886 (ib.), and K. 4152 (PL. 44); K. 14062,
 duplicate of S. 1701 (as above), and K. 4140B,
 (PL. 28); K. 4163, duplicate of K. 8807 (PL. 42).
 PL. 43, S. 60, probably duplicate of KAR
 203, IV, 25. PL. 44, K. 4152, duplicate of
 K. 8782 (uncopied) which adds a little new
 to Col. ii.

THE ASSYRIAN LISTS.

§ 9. RM ii, 41 (PL. 40) appears, from its first line, to head a series:—

§ 9A.

| | | | |
|-------|--------------|---------------------|---------------|
| | | šAM | šam - mu |
| u | | SULLIM ^① | di - šu |
| u | LI. | A | „ |
| u | šAR. | RA | „ |
| 5. u | di - | šum | „ |
| u | | GUG | um-ša-tum |
| u | | GUG | ru - ba - tum |
| u | | GUG | „ |
| u | | GUG | el - pi - tum |
| 10. u | GUG.A.BUR.RA | | „ me-e bur-ki |
| u | A. | GUG | „ „ |
| u | GUG.šU.KIN | | |
| u | GUG | | |

CT XI, 45, i, 11-14, GUG = ku-nit-tum, ur-ba-tum, ru-pa-tum, el-pi-tum. CT XIV, 4, ix, 2 shows how GUG is placed early in a list: 14 gives "GUG.BUR.RA instead of "GUG.A.BUR.RA, this list being paralleled by K. 9182 (CT XIV, 33) + 79-7-8, 188 (CT. XVIII, 21) joined by Langdon (RA, 1916, 33).

Tablet "A" (PL. 18) (reads in first section) is probably to be placed next. (See § 9AK).

① I am indebted to Prof. Langdon for this value.

?

§§ 9B, 9C, 9C.2.

§9B.

ū ur-[ba-tu]
 zir ū ur-ba-te
 ū ku-un-gu
 5. ū ha-ti-lu
 ū šal-la-pa-nu
 ū (gu-ug) GUG

ū si(?)-e(?)-... ①
 ū ku-un-gu
 ū gu-u-ru
 ū pa-pa-a-nu
 ū šiš-a-nu
 ū ši-iš-nu

9C.

ū iš-bab-tu
 ū iš-bab-tu tamšil
 10. ū si-i-tum ③ tamšil
 ū ša-mi šêri
 ū iš-bab-tum [ekli] ④
 ū
 ū [iš-bab-tum]...
 15. ū GAL. ŠAR
 ū KI. DI

ū mal-lah ②-tu
 ū hašhur-abi
 ū iš-bab-tum inbu-šu
 ū iš-bab-tum arku u ha-as
 ū si ⑤-sa-tum
 [ū iš]-bab-tum
 . . . rabûti^{pl}
 ū KANKAL
 ū KANKAL ma-a-a-al
ilu
 AZAG ⑥

[Here add, for comparison, RMii, 479, PL.37:

§ 9C.2

[ū
 ū
 ū
 TIR
 TIR
 TIR
 TIR
 TIR

aš — lum
 ur-ba-tu
 el-pi-tu

① Re-ex., sa-a-ru doubtful. ② V. lah, Bu 89-4-26, 112 (PL.43). ③ Re-ex., tum almost certain. ④ Traces PL.18 and 43 convincing. ⑤ R. from PL.43. ⑥ For part of these sections compare §§ 9AI, 9AK.

| | | | |
|-------|----------------|-----|-------------------|
| u | | TIR | ki - li - lu |
| 5. u | | TIR | a - bu - ka - tu |
| u | | TIR | aš - lu - ka - tu |
| u | LI. | TUR | a - bu - ka - tu |
| u | LI. | TUR | aš - lu - ka - tu |
| u | LI. | TUR | ki - li - li |
| 10. u | ka - zal - lum | | ka - zal - lu |
| | LUM | | tu - bu - u |

also S. 8, a-b, PL. 38 :-

§ 9, c3

| | | |
|------|---------------|------------------|
| [u] | HI. ERI. IN | ditto |
| u | KUN. GAL | ditto |
| u | ŠIŠ. GAL | ditto |
| u | ŠAG. ILA | a - ra - an - tu |
| 5. u | KUL. LA | iš - bab - tu |
| u | KUL.LA.LAB.BA | ditto |
| u | KI. A | ditto |
| u | KI. LAL | ditto] |

TABLET "A" continues (PL. 18) :-

§ 9, D.

| | | | |
|-------|------------------------|---|---------------------------|
| u | a - tir - tum | u | ha - sa - ar - ra - [tum] |
| u | GI.GIL arku | u | ha - sa - ar - ra - tum |
| u | a - ra - an - tum | u | ha - sa - ar - ra - tum |
| 20. u | kam - ti ekli | u | ha - sa - ar - ra - tum |
| u | a - nu - nu - tum | u | ha - sa - ar - ra - tum |
| u | a - tar : a - tar - tu | u | ha - sa - ar - ra - tum |
| u | kasî am - ha - ra | u | a - tu - ar - tum |
| u | lu - lu - tu | u | a - ra - an - tu |
| 25. u | kam - ti ereši | u | ka - si - u |
| u | am - ha - ra | u | ka - su - u |

Add to above the variants K.271 (PL.35) left col. (1) ^uel-[pi-tu] | (2) ^ua-ṭar-tum (3) a-ṭar (4) ^uGI.GIL arku (5) ^ua-ra-an-tum (6) ^ukam-ti ekli (7) ^uan-nu-tu, doubtless all = [^uḥa-sar-ra-tum] (8) ^uka-si am-ḥa-ra = ^ua-[tu-ar-tum] (9) zir ^ua-ṭar = zir ^u... | (10) ^uu-tu-tu (11) ^uan-nu-tu (12) ^uŠAĞ.ILA (13) ^uŠAĞ.KAL (14) ^uPI.PI (15) ^uPI.PI.ŠAL.LA (16) ^uLID.TIR, all (10-16) = ^ua-ra-[an-tu]; (17) zir ^uLID.TIR = zir ^u... : Bu. 89-4-26, 112 (PL. 43) ll. 10-14 ^uḥa-sir-ra-tum, ,, ,, ,, ^uka-si-i. L. 15 traces ^uša-am-ba-lil-ti.

TABLET "A" continues :-

89.E

[^uSULLIM] ŠAR^① |

^uša-am-[ba-lil-ti]

[^uzir]... ŠAR |

^u[zir ša-am-ba-lil-ti]

[The section of ^ušambalilti is fully given on TABLET "B", PL. 21, and is appended here

- COL. IV, 20 :-

[^uSULLIM ŠAR]

[^uša-am-ba]-lil-tu

28 [^uzir ... ŠAR]

[^uz]ir " "

[.]

[] "

- COL. VI-V, 1 :-

30 ^uMUH. AŠ. AŠ

^ue-ri-iš-tum

^uNAM.TAB. BA. ŠAR

" "

^uŠIBIR, ŠAR

" "

[^uš]a-am-ba-lil-tu

^ula-di-ru

^ue-riš-ti ka-si ŠAR

^ula-di-ru

^utu-l-di

^u" ina šu-ba-ri^③

^uŠIBIR^② GUB. BA. ŠAR

^us-su-uh-tu

^uŠIBIR^② ŠUR. RA. ŠAR

ša^④hi-it-tu

① From CT XI, 45, I, 4.

② V. ^uŠE.MULU, K 8791,

l. e PL. 41 ③ After this line

^uŠE.MULU ŠAR = ki-si-bir-[ru]

K. 8791. ④ R. 8791 šī.

| | |
|----------------------------------|-------------------------------|
| u šIBIR ^① GIŠ.MI.ŠAR | šil ^② la-ni-tu |
| u šIBIR ^① HAR.ŠAG.ŠAR | a-zu-pi-ra-ni-tu ^③ |

A gap then follows in "A", partly filled by the left Col. of K.4586 (PL 31, +K.4216, PL.19); rt.-hand Col. - § 9F: (40) --- [tu]m (41) --- tu (42) ... in[]u-šu arku^④ (43) ... kima kurban ekli šihru u šalmu^⑤ (44) ... Kaš šu-u (45) ... subarti^{ki} (46) --- -ku (47) ... ? (48) ... -du-u (49) ... ? (50) ... ku (or šu) (51-54 uncertain). Then, perhaps after a gap, § 9,G from "B", CT.XIV, 21, VII, 17 ff.

§ 9G,
60. [HUL.GIL] | []r-ru-u^⑥

Followed in rt. Col by []r-ru-u 6tt. and gap of one line; then:-

| | |
|--|--------------------------------------|
| u (ša-mu [sâmu?] ^⑦) | ur-ru-u? |
| zal-lu (nêši | u ur(?) - [ru-u?]) |
| 70 zal-lu (nêši ša ina me-lul-ti i-[mu-tu]... ^u) | u ,, [ina šu]-ba-ri ^⑧ |
| u bu-la-lu | u ,, [ina šu]-ba-ri ^⑧ |
| zal-lu kalbi (šalmi ša ina mit-hu-ši [i- | [mu-tu] zal-lu ^u HUL.GIL) |
| zal-lu a[melûti | .. [zal]lu ^u HUL.GIL) |

§ 9H

| | |
|-------------------|---|
| u [HUL] | [u ^u HUL] L.TI ^⑨ [GIL.LA] |
| u [UL] | [mu-us]-ri-tu |

K.8791, b-c, PL.41. ① K.8791 ŠE.MULU. ② K.8791 šil. ③ After this line "HAR.ŠAG.ŠAR = a-zu-p[i-ra-ni-tu]. CT.XIX, 50, 2-5 is a duplicate. ④ "Its fruit green". ⑤ "Like* chamomile, small and dark". Cf CT.XIV, 21, IV, 4. ⑥ § 10 G.2. ⑦ Traces, but? ⑧ Line omitted, K.4354. ⑨ Re-ex.

G.

§ 9 H, § 9, I.

§

KAT

^uHUL.TI.GIL.LA]

^uHUL.LI.LI.GA

^uHUL.LI.LI.GA

[^uHUL].TI.GIL.[LA]

[^u] - lu^①

tam-šil a-ru-ni

^uKiś-šu-u ša šu-ma-me-tu

[For this section cf. the equivalent passage in "B", K267 (PL.21) + K.4180B (PL.32), VIII-VII, ll 5-16:-

HUL[ŠAR (Br.10887

HUL.T[UR, ŠAR

HUL

ŠIR

10. zir[HUL]

KAT

^u[HUL

^u[HUL.LI.LI.GA]

[^uHUL.LI.LI.GA]

[^uHUL.ŠIR.GUD]

.

.

kiś - šu - u

u - ba - nu

ša - ru - ru

ša - ru - ru

zir kiś-še-e

^uHUL.TI.GIL.LA

nu - uš - ri - tu

[tam]-šil a-ru-ni

kiś-šu-u ša šu-ma-me-ti

[bir]-ka al-pi

. . HUL.DINGIR.MER

. . . HUL.MEŠ

"A" continues —

§ 9, I: -

80 ^umārat ekli

^u[ŠA.LAM.BITUR.R]A

^u[a-ra-ru]

[a-ra-ru ut-liš]

^ua-ra-tu..

^ua-ra-ru..

^uha-an-zi-ba-[tu]

[^u]lu-lu-[tu sâmtu]

(K.267 spells it ^u[a-ra]-ru)

① K.267, VIII-VII adds three lines, to be included here:

32 ^u KUR.RA

HUL.LI.LI.GI.ŠAR

» KUR.RA

tî-g[i-lat] šad(i)

šu-[u]

dikto . . šad(i)

(Perhaps one or two lines more, K.267

("B") adds between ll. 81 and 82:

u AŠ. KA. GA
u PA. PA. PA
u a-a-ba SA

u [a-ra]-ru
u a-rat a-ra-ru
u " "

Add here from "B", K.267, PL. 22

§ 9, J:

86. [u a-du-ma-tu
u ka-na-šu-u
are^{pl}-šu mare^{pl}

GAN.ZI.ŠAR

90. zir GAN.ZI.ŠAR

§ 9, K. u GAN.ZI. - u

ga-mul GAN.ZI

u GUR. UŠ

u BAR, GUR. UŠ

95. u ka-su-u

u HAR. HAR

u ka-na-šu-u ina^{matu} Marra-tum

tam-šil^{du} NAM.TAR

sin^unišati^{pl} ka-zi-ri išu^{pl}

u ka-na-šu-u

zir " "

u sar-ma-du

u sar-ma-du

mê šar-ma-du

u " ①

u " "

u karan šelibi] ②

The order in § 6 shows urnû sâmu following adumatu, so that little is missing before the continuation of "A" (PL. 19) —

§ 9, L.

97.

.

.

100.

.

.

[u] ur-nu-u

[u] ur-nu-u

[u] ur-nu-u

[u] ur-nu-u

[u] ur-nu-u

[u] ur-nu-u

① JIR.46,70 BAR-GUR.UŠ = sar-ma-[du] ② The

first line of the next tablet, it does not appear to restore our present text.

8.

§ 9, L; § 9, M; § 9, N.

.....
 u
 105. u BÜR. SUN ...
 u BÜR. DA
 šam šar- ti
 u kur- nu- u sâmu
 110. u kur- nu- u ta- bali
 u hu- ur- nu- u

[^una]- ni- hu
 [^uur- ni-]e
 u ur- ni- e
 u ur- ni- e
 u ur- ni- e
 u ur- ni- e
 u kur- nu- u
 u kur- nu- u
 u ka- nu- u

§ 9 M.

u zi- bi- ba- nu
 u TIN. TIR. [MI]
 u TIN(?) . [TIR] ...
 115 [LU]. UB ša kima HI. ŠAR

u zi- bu- u
 u zi- bu- u
 u zi- bu- u
 u zi- bi- ba- nu⁽²⁾

§ 9, N.

u šim- ru
 u SU. NU. UŠ
 u ša- mi ha- hi^{pl}
 u HA
 120. u HA : šim- ra- nu
 u HA : HA. ZUN
 u HA
 u pa- ri- e
 u ... - la- a- nu- um⁽³⁾

u PI. PI
 u PI. PI
 u PI. PI inâ mâtû Akkadi^{ki}
 šam- ra- nu
 tam- šil^u šim- rum
 u šim- rum
 u šim- rum
 u HA ša šadî(i)
 u šam- ra- nu

① Here begins the join, K. 4586, PL. 31.

② Cf. § BJS, l. 470. Insert for comparison K 8791, PL 41.

- 2. u TIN. TIR
- 3. u TIN. TIR. UD. ŠAR
- 4. u TIN. TIR. MI. ŠAR
- 5. zi- bu- u

k[a- mu- nu].
 u ka- mu- nu]
 zi- bu- u
 ditto

③ Re-examined.

§ 9 N : § 9 O : § 9 P. 9

125. ekli(?)

.

.

.

.

ušid "šam-ra-ni

išid "šam-ra-ni

šam-ra-nu

[šam]-ra-nu

[šam]-ra(?)-[nu?]

According to § 6 the gap following contains (§ 9 N 2) "arzallu; (§ 9 N 3) "dadaru, (§ 9 N 4) "lapat armanni, and (§ 9 N 5) "GI.GIL arku. § 9 O, one of these?

§ 9 O. -

130 "ŠUR

"MULU.GIŠĜAL.LU

.
"a-ku(?)-[ši(?)]... ①

§ 9 P. (see pp. 254, 263).

"GI.GIL sâmu

"GI.GIL pišû

"GI.GIL sâmu

135. "bit . . . ekli ②

"GI.[GIL][pišû?] ③

"a-a-ar ④ kaspi

"a-ši-e

"ki ⑤-la ⑥-ar kaspi

140 "a-a-ar hurasi(?)

"zi-im hurasi ⑦

"illuru sâmu

[u] illuru pišû

145. [u] illuru salmu

[u] illuru salmu

"zi-im kaspi

"ra-tu-ut-tu

"[ra]-tu-ut-tu

"ar-ti-tu

"ar-ti-tu

"a-a-ar kaspi

"nu-ša-bu

"nu-ša-bu . . .

"nu-ša-bu . . .

"nu-ša-bu . . .

"nu-ša-bu . . . ⑧

"ri-zu

"

"

"

"a-a-ar [kaspi?]

① Cf. PL. 26, K. 14059, 6 and K. 4185, 14. ② Re-ex. ③ From CT xxxvii, 30. ④ CT. xxxvii, 30 ia-ar. ⑤ Or dul or di ⑥ Or lu(?) or ku(?). See CT xxxvii, 30, l. 6. ⑦ CT. xxxvii 30 ut-liš here. ⑧ Re-ex. uncertain at end.

10.

§ 9 Q, 9 R, 9 S.

§ 9 Q. (Dup. CT xxxvii, 30, U 10 ff).

u a-a-ab^① akali pl

u ša-mu tar-bu-u^②

150. u en-su-u

u el-li-bu

u el-li-bu

u ŠAR. GIŠ. TIR

u ku-ra-aš-ti

155. u e-ri-mu

u e-ri-mu

u illuru arku

u ma-aš-ma-aš

160. šam maš-ka-di

u a-a-ba šir'ani

u ŠE. RÙ . . .

u el-li-bu

u el-li-bu

u el-li-bu

u e-ri-mu

u GI.GIL ša^③ kišti

u GI. GIL

u GI. GIL

u GI. GIL

u GI.GIL ša^③ kišti

ša(?) inbu-šu šamu

u a-a-ab a-ka-li

u el-li-bu

u el-li-bu

u el-li-bu

u [el-li]-bu

(§ 6 gives the correct order (§ 10 Q 3), u edu, (§ 10 S) u šibbur-
ratu, (§ 10 T) u kamunu, (§ 10 U) u anameru. These are found on
CT xxxvii, 30-31 (for which see p. 26[†]) and Rm 356, PL 33, the
latter (restored from p. 160 and CT xxxvii 27²⁶⁻²⁷) running thus:

§ 9 R. [u ša-mi ka-ka]-ri

[u ša-mi e-si]-e

165 [u ša-mi e-si]-e

[u . . .]

[u su-pa]-lu

[u ša-mi ra]-pa-di

[u ša-mi šir]-pi

170 [u ša-mi sil]-ki

§ 9 S [u za-te]-ru

u » (= [†]supalu)

u »

u »

u »

u mal-[†]-tum

u ša-mi uk-na-a-ti

u »

u »

u šib-bur-ra-tu

① CT xxxvii ia-ab. ② ti. ③ Re-ex.

[^uLUH MAR]. TU
[^uLUH.MAR.TU.KUR]. RA

89 T. [^usi-mat] evesi

175. [^uAA] ekli

. -ni

. -li

. ekli

. ekli

180 [^ua-na-m]e-ru

[^ua-na-m]e-ru

[^ua-na-ri]e-ru

"A", K. 4216, Pl 20, continues or restores here:

^u

^ua-n[a-me-ru]

185. ^ua-na-me-ru ut-liš

9V. ^uha-si-sa-a-nu^④

^uha-la-me-su

^uhal-dap-pa-a-nu

^uHAR. HAR

190. ^uTUR. RA

^uut-ti-mu^①

KU[?]. KAR[?]. IZ. ŠA. E . . .

^uKU. KAK ^uku-uš-ru

^uTU. UŠ-ru-uš^⑥

195. ^uki-iz-bat

šupur ameluti

^ua-a-ar sa-na-bu

^u " " " " sa-di-e

^uka-mu-nu

^ua-na-me-ru

^u " "

^u " "

^u " "

^u ["]

[ka-li-pu.]

[la-ka]

[^uUR. PI. PI] . . .

^uhal-[dap-pa]-nu

^uhal-dap-pa-nu

^uKU^③

^uhal-dap-pa-[a-nu]

^uhal-dap-pa-[a-nu]

^uhal-lu-la^②-a-a

^uhal-dap-pa-a-nu

^uku-zu-ru

^uku-uš-ru

^uku-uš-ru

^uku-zu-ru

^ua-a-ar tu-kul

① Re-ex. Last char. possibly šum.

② Re-ex. Perhaps ba.

③ Re-ex. Impossible to say.

④ CT. XXXVII, 31 ^ume-si-

sa-[a]-nu. ⑤ CT XXXVII, 31, ^utu-lid[?] . . . ⑥ CT XXXVII šu

| | |
|--|--|
| <p>89W. u ŠIR u ŠIR 200 šer kalbi šinni kalbi GISAL. EN. NA. ŠAR U. ŠAR u ② ku-pi-... ŠAR(?) ① 205. u u . . du(?) . za(?) . . u . . ru . . ut-liš</p> | <p>u lišan kalbi u lišan kalbi GIR. PAD. DU ① kalbi lišan kalbi li-ša-an kal-bi u lišan kalbi u lišan kalbi u lišan kalbi </p> |
| <p>89X. u GAR . . . ekli u a(?) . . . ekli 210 u u ni-bi-? ekli u inib ekli u zu-ki-ki-pa-a-nu</p> | <p>u [kurban ekli] u kurban [ekli] u kurban ekli u kir-ba-an ekli u kir-ba-an ekli u kir-ba-an ekli</p> |
| <p>89Y. [u] ša-mi i-ki-ri 215 [u] ša-mi hi-in-ti [KUR. RA]. ŠAR </p> | <p>u ni-nu-u u ni-nu-u u ni-nu-u u ni-nu-u u ni-nu-u u ni-nu-u</p> |
| <p>89Z. 221</p> | <p>u a-la-mu-[u] inbu-šu</p> |

Probably "KUR. RA. [ŠAR] of § 6, 244 is to be used here for restoring the sequence. The

① Re-ex.

② u is uncertain.

plants then are ^ušguš[ti], ^uišbattum (§ 9c),
^ugi.gil..., ^uhašhur a-bi (probably to be ident-
 ified in "A", K.4216, PL.20, XI, 7-8, its approximate
 position) ^ugi.gil.ab(?) ... possibly coinciding
 with the ^ugi.gil=[ⁱU].GIR of "B", K.267, V, 15,
 PL.21, since, from "A", K.4354, XIV-XIII, PL.18, all
 the ⁱU.GIR groups of "B" (K.267, VI-V, 11ff) are
 probably to be inserted here. The following 2
 sections from "B" are used to fill up the gap
 in "A", which then coincides (in ^uA.šī. A.šī,
 XIV, 1.3) with "B", PL.22, VI-V, 30)..

§ 9,AA.

| | | |
|------|-----------------------------|------------------------------------|
| 222 | ^u i - gi | [^u]a-ša-gu |
| | ^u da-da-a | ^u ab[?]/še-gu |
| | ^u ša-mi šadī(i) | [ⁱ]U. GIR |
| 22.5 | ^u šrib šadī(i) | [ⁱ]U. GIR |
| | ^u gi. gil | [ⁱ U]. GIR |
| | ^u a-ma-r[ī-du]① | [^u]a-ša-gu |
| | ^u | ^u i U. GIR |
| | ^u i U.GIR. G[IL] | ^u da-da-nu |
| 230. | ^u kur-ba-si | ^u ina šu-ba-ri |
| | ^u a②-bi-tu | ^u ina ki-na-ḫi |
| | [^u ku④]-šak-ku | ^u rabū(u)ina ki-na-ḫi |
| | [^u sa-ajm③-tu | [ⁱ]U.GIR ina Me-ḫi-ḫi |

§ 9,AB.

| | | |
|------|---|--|
| | [^u ER]③.TIL.LA | ^u ha-ru-bu |
| 235 | [^u ša]am da-da-a | [^u]ha-[ru]-bu |
| | ^u Aš. PI. [PI?] | ^u ha-[ru]-bu |
| | ^u ša-mi ⁱ U.G[IR] | ^u ha-r[ru]-bu |
| | ^u KUR. AB. DU | ^u ha-ru-bu |
| | ^u ḫil sim-ta-t[e] | ^u ḫil ⁱ U. [GIR] |
| 240. | ^u zir ⁱ U.GIR | KU TU. HU. [MEŠ] |

① R. from II R. 23, 34, e. ② Rm. II, 203, var. e. ③ R. from Rm. II, 203, PL. 46. ④ See p. 282

14. § 9, AC: 9, AD: 9, AE: 9, AF: 9, AG.

Here K. 4354, PL. 18, probably continues

§ 9, AC.

[u]
u BAR(?) BAR(?)^①

§ 9, AD.

| | |
|-----------------------------------|---------------------------|
| u A. ŠI. A. ŠI | [u bal - tu] |
| u aš - ka - di | [u bal - tu] |
| 245. u uš - šam - ri - hu | [u bal - tu] ^⑤ |
| u a - mu - meš - tu | [u bal - tu] |
| u a - tu - tu | [u bal - tu] |
| u U.DA ^② | [u bal - tu] |
| AL. E. GIŠ. NIM | [ŠE.RÙ GIŠ. NIM] |
| 250. u GIŠ. NIM pi - ki - ni - tu | [GIŠ. NIM pi - si - tu] |

§ 9, AE.

Here "B" differs from "A". "A", K. 4354, continues (left col.) (251) "te - ir - ."^③ (252)

"HAR. H[UM. BA. ŠIR] (253) "NIM. T[A. E] (254) " . . .

| § 9, AF. (left col.) (255) "pu - (256) "a - b[a?]"^④

Then a gap of more than half a column (to be restored from § 6?).

§ 9, AG (Cols XVI - XV of "A", K. 4354):

| | |
|--|--------------------|
| u PI ^① . PI ^① . NU. NU | |
| u - a - nu | u |
| u KU. LUL. A | u KU. MA. LAH |
| 260. u GAP. PUR - | u KU. MA. LAH |
| u KA. NI | u KU. MA. LAH |
| u kišad nâri | u KU. MA. LAH |
| u KU. MA. LAH | šammi bi - nu - ut |
| | a - gi - e |
| 265 ^u KU. SA. A. AB. BA | u mul tam - tim |

① Re-ex. Characters doubtful. ② "B", K. 267, PL. 22, adds "ZIR. GIN = "bal - tu" ③ Or hi - t[u] ④ Perhaps su. ⑤ K. 267 "a - mu - meš - tu.

u KU.SA ia-a-me
 u ar-hu-lap ut-liš
 u ka-ni-pa-nu ut-liš
 270. u gul-gul-la-nu
 u zir kul-kul-la-nu
 u ša-mi ra-pa-di
 u kul-ku-la-a-nu
 u a-a-ar si-kir
 275 u zir gul-gul-la-a-nu
 u ut-liš
 [u AŠ?]-PI.PI ut-liš

u mul tam-tim
 u pir-hi ŠAR âre^{pl}-su
 mâre^{pl} sinnišâti^{pl} [ka-zi-ri
 u ha-lu-ub?)]... | isû^{pl} ①
 u inib ka-si šîri
 u ki-sa-at šîri
 u ka-si šîri
 u ki-sa-at šîri
 u a-a-ar ka²-šîr²
 u zir ki-sa-at šîri
 u nam-ha-ru-u sâmu
 u lišan kalbi
 -a

(Before continuing with the next tablet, include such sections of "B" as have not already been absorbed in "A" : K.267 + 4180 B, + 6069, PL. 21, Col. I. (K.4180 B, PL. 32, which I have lately joined to K. 267 follows after obv. Col. I after a hiatus of about 5 ll. Col. I of K. 267 is not worth inclusion here: K.4180 B³ runs:-

89, AH.

| | |
|--|--|
| u 280. šer u hu-la-me-su . u imhur-pani ša [ekli] u imhur-ašra ša [ekli] u sa-ap-sa | . |
|--|--|

① Lost char. perhaps MEŠ. ② ? Ka-šîr badly written.
 ③ Part dup. K.4419, PL. 43, of which Col. B is here added for comparison: (Left Col. only) (1) [ŠE.RÛ arhu uzuli, (2) ŠE.RÛ arhu Tašriti, (3) ŠE.RÛ i NIM ša a . . . , (4) u HAR.HUM.BA.Š[IR] (5) u ar-zal-lum, (6) u illuru arku, (7) u illuru arku, (8) u imhur-pani ša ekli, (9) u imhur-ašra ša ekli, (10) ŠE.RÛ kan-šalali ša ina igari . . . (11) u hu-la-me-su . . . , (12) u ka-z[al-lu], (13) u KI.KU . . . , (14) u | (15) u

15. § 9, AH : 9A, I : 9, AJ : 9AK : 9AL : 9AM.

285. u zir u
u ša gišgal.lu
šE.RÙ kân šalališa [i. . . igari. . .]
u hu-la-m[e-su. . .]
u arku

§ 9, AI.

290. u GUR.BINQIR.[BABBAR]
u ma-š[u]
u NUNUZ

(5 u(?) to end of column)

K.267, cols. III-IV, i.e., K.4182, PL.34, which, although it does not join, shows clearly ^① from rev. that it is the lost end of cols VI-V, and top of III-IV. For the order of § 9C, 2.1 and Kazallu

§ 6, 2.21. Part dup. § 9B. § 9, AJ runs

| | |
|------------------------|------------------|
| [u šal] la-pa-nu | u šis-[a-nu] |
| [u ša] l-la-pa-a-nu | u šal-la-[pa-nu] |
| 300. [u ša] l-la-pa-nu | u šal-[a-pa-nu] |
| [u šij]-iš-nu ut-liš | u ur-ba-tu |

§ 9AK.

| | | |
|-------------------|-----|-------------------|
| [u] | GAL | u |
| [u . . .] kil | GUG | u |
| [u] | TIR | u [ur-ba-tu. . .] |
| | TIR | u |
| 305 [u ur]-ba-tum | | u |
| [u zir] ur-ba-tum | | u |
| | | u |

Gap follows, until near end of cols III-IV, prob. containing u kazallu, u išbattu, u UD. Then § 9, AL: (310), (311), (312) UD.DU (313) u MI (cf. § 9F, l.43), (314) -tu | (315) (9AM) -e, (316) -e, (317) -e (318) -u Then follow §§ 9, E, : 9AA : 9AB (q.v.) and we can go on to § 9AN:

① Re-examined.

§§ 9AN: 9AO: 9AP: 9AQ

| | |
|--|---|
| § 9AN. u HUL.TI.GI.LI 320. ŠĀ.KUR.RA | hi-il-ba-ti šadi(i) hi-il bal-ti šadi(i) ① |
| § 9AO. u kiš-ša-tu pir-ki-ša arik | u ku-[šab-ku.p.282] ② u ku-[šab-ku.p.282] |
| § 9AP. u ša-mu salmu, dâmi širi salmi 325. u LUL ④. AZ | [u AT. KAN] ③ [u AG. UD] ③ |
| u ša-ga-bi-gal-zu ut-liš ŠE.RÙ(?) | u |
| [u] ša-ga-bi-gal-zu ut-liš ŠE.RÙ(?) | u |
| [u ša]-ga-bi-gal-zu | u |
| 330. [u . . .]-ar si-lu-ur-gu | u |
| [u . . .]-ti-gal-zu | u |
| [u š]i. IM. BUR | u |
| [u š]i. IM. BUR | u |
| BAR | u |
| A small gap, continued by K. 4182, Pl. 34, rev. | |
| 340 | u |
| -bu | ut-liš u |

| | |
|------------------------|----------------|
| § 9AQ [u ša-mu] sâmu ⑤ | u [is-pa-(r)u] |
| [u ša-mu] AŠ | u [is-pa-(r)u] |
| [u ŠĀ.] PA | u is-p[a-(r)u] |
| [u] LĀL | u is-p[a-(r)u] |
| [u] GU. AŠ | u is-p[a-(r)u] |
| [u . . .] za GIL | u is-p[a-(r)u] |

Column ends. Then K. 267, II, Pl. 21 + rev. K. 4180B, Pl. 32

① Cf. § 6, ll. 101, 102. ② Hrozný suggests ku-[na-šū] (Gehr. 179). Presumably kiššatu is not $\kappa\dot{\iota}\sigma\tau\alpha$ "dodder" and pirki-ša arik "its fastening (bolt) is long" with ref. to the parasitic nature of the dodder.
 ③ See addenda, p. 261. ④ Perhaps read KA, see pt.
 ⑤ See p. 261 for these restorations. | xxxvii, 27, 16.

18

§§ 9 AS : 9, AT : 9 AU.

u

[u] l̥s - [pa - (r)u]

šER

[u] l̥s - p[a - (r)u]

350. u

[u] l̥s - pa - [(r)u]

NIM. [~~ppa~~ ~~ppa~~] ①

šammu sâ[mu]

Then follow §§ 9 H, 9 G.

K. 4398, "C" PL. 25

begins similarly to §§ 9 AG, that this is the next tablet

which (with § 6) shews in order:

§ 9 AR. u KA. NI

u ra - ši(?)

§ 9 AS. u ša-mi ki-ri-b tam-tim

u im-bu-u tam-tim

u KA. A. AB. BA

u im-bu-u tam-tim

355 u tâtmtu rapaštutu (tu)

KA. A. AB. BA

u KU. SA. A. AB. BA

u mul tam-tim

u KU. SA ia-a-me

u mul tam-tim

§ 9 AT u A. ZAL. LA

u a-zal-lu-u

u ša-mi ni-is-sa-ti

u a-zal-lu-u

360 u gur-gur-tu

u a-zal-lu-u

u GAN. ZI. TAR. NU

u a-zal-lu-u

u HAR. GUD

u gur-[gur-tu]

u har-mu-um

u gur-[gur-tu]

u A. ZAL. LA

but

365 u A. ZAL. LA ut-lis ①

u sâmu ②

§ 9 AU. u si-kur-rat ekli

u pu-kut-tu

u si-kur ekli

u pu-kut-tu

u um-mat ekli

u pu-kut-tu

u um-mat

u pu-kut-tu

370 u HA. HI. IN

u pu-kut-tu

u GIR. HA. AH

u pu-kut-tu

u UL. HA. AH

u pu-kut-tu

u pu-uk-da-tu

u pu-kut-[tu]

u GIS. GIL

u pu-kut-[tu]

375. u pu-kut-tu

u ša-mi su-[ba(?)-ti(?)]

① Restored from CT. XXXVII, 27, ii 32 (=GUG...; something red?). ② Re.ex

§ 9, AV

u KUR. KUR
 u ša-mi šadi(i)
 u uzna^{II}
 u lib- bi
 380. u uzun lib- bi
 u PI. PI. NU. NU
 u PI. PI. PI. TAK

u at-ia(?)² . . .
 u at-[a(?) . . .
 u at-[a(?) . . .
 u KUR. [KUR]
 u KUR. [KUR]
 u PI. P[] . . .
 u at(?) - ia(?) . . .

From § 6 "kustbu and "kuiatu (§ 9, AV, 2) fill the gap which follows. Then (see § 6). K. 4345, PL. 28, continues the text of K. 4398, to which it belongs but does not join:

§ 9, AW.

.
 390

u š[a]-š[u]-u[m]-tu
 u ša-šu-um-tu
 u ša-šu- ' - tu

§ 9, AX.

[K]A(?) . . . ZA(?)
 [u-e-zi]- šUR
 zu

u pi- ku(?)
 u pi-en-[du-u]
 u pi-en-[du-u]¹

§ 9, AY.

395

u ša-mu SA[K? . .]
 u ša-mu
 u
 KAK

Near here (if not actually coinciding) begins Col. III of K. 4398, PL. 25, with additions from K. 14087, PL. 38: -

§ 9, AZ: Left-hand Col. (399) u . . . (400) u . . .
 (401) u zir² KI . . (402) u zir² . . . (403) u zir² SAG . .

§ 9, BA.

u š mar-qu-lu³ | u si⁴ [hu]⁵

① This section r. from K. 14087, 1-3, PL. 38, and SAI 2642-44. But cf. M. '13, II, 27, where 'GUQ.DIR, 'ZUR.GUQ, 'BIR.GUQ = pi-en-du-u Re-ex. ② M. '04, 29. ③ 'S mar-qu-lu, from Rm, 367 (re-ex), which has mar-qu-su in line following. My restoration from K. 14087. ④ From K. 14087. ⑤ § 6.

405 u mar. gu- nu^①
 u ZA. LUM^①
 [u sa-mu-si-ru]^②

u si- [hu]
 u si- [hu]
 u si- [hu]

u š ar- ga- nu^①
 u ur- nu- uk- ku^①

u a[r- ga- nu]
 u ar- [ga- nu]

410. u PI.PI- nu ša šadi(i)^①

išid u a[r- ga- ni]

89, BC

i u š [MAN. DU]
 u N[IM]
 u [NU. GI]
 [GI. ŠI. ŠAR]

[u su- a- du]
 [u su- a- du]
 [u su- a- du]
 [u su- a- du]^③

① R. from K.14087. ② R. from § 6, and prob. 82-5-22, 576 (+ K.8249), PL.40 [u sa-mu-si-e-ri. ③ R. from K.8249 + 82-5-22, 576, PLS.31 and 40, the order being correct from § 6. Preceding § 9 BC, K.8249 + 82-5-22, 576, PLS 31, 40, gives a somewhat different series: (cf. also K.8846, 21 ff. PL.31).

§ 9 BC 2.

.

 5
 u
 u tu - uš - kar
 u mar- gu- s[u]
 u ba-ri-la-nu ut-[liš?]
 10. u ba-ri-ra- t[u]

[u ba-ri]- ra- tu
 [u sa-mu-si]- e-ri
 [u mar- g]u- su ra- bi
 [u ba]- ri- ra- tu
 [u] » ina šu- ba- ri
 [u] » ina ku- te- e
 u » ina šu- ba- ri
 u ba- ri- ra- tu
 u ba-ri-ra-tu TUR.ŠAL.DAM(?)
 u ba - ri - lu

§ 9 BC 3.

u na- ni- ku u ka- lu- u
 u ka-lu-u ut-liš(?) u.GIR ka-zi-ri NU.TUK inbu-šu kima
 | tar-ma-ni

Ll. 13-16 § 9 BC 4 as § 9 BC. Then left-hand col: § 9 BC 5 (17) u BE.LA.GUR.DI, (18) u A.RIT.NI, (19) u A.LIT.NI | (20) § 9 BC 6, u NU.UG (21) [u] i(?) .TUR, (22) [u] . . UD.

After a gap, which must include ^uḥab-šallurḥu, comes K. 9948, PL. 37, belonging almost certainly to K. 4345. Hence add also its dup., K. 4438 B, PL. 24 :- 889, BD, (chiefly rt. Col.) (420) ^u... (421) ^ukur-... | 889, BE, (422) ^ue-nir-[ru], (423) ^utu-ba-ku³ (424) ^u... HU = ^uiš-sur-ri ^utu-ba-ku (425) ^u... HU = ^uiš-sur-ri ^utu-ba-tu (426) ^u[^utu-ba]-tu = ^uiš-sur-ri (427) ^utu-ba-ku | ^u 889, BF (428) ^ukam-ka-du (429) ^ukam-ka-du (430) ^ukam-ka-du (431) ... -su = ^ukam-ka-d[u]. Then K. 4345, rev.,

PL. 28, appears to connect at this point: -

432. ^uTA. K[AM] ^u3
^uKA. KA. KA
^uKA. KI. TAR
 435. ^uID. KA. KI TAR
^uBAR. SAG. KI. IN. TAR. RA

^ukam-ka-du
^ukam-ka-du
^u[kam-ka-du]
^u[kam-ka-du]
^uk[am-ka-du] ^u4

889, BG.
^uLID. GAB
^uša-ap-ru
^uša-ap-ra-tu
 440. ^uša-la it-tu
^uki-ip-ni
^uzir LID. GAB
^uBAR. UD
^uzir ša-mi a-ši-i

^uk[a-man-tu] ^u5
^uk[a-man-tu]
^uk[a-man-tu]
^uk[a-man-tu]
^uka-[man-tu]
 zir ^u[ka-man-ti]
 zir ša-mi [a-ši-i]
 zir ^u...

889, BH ^u6
 445. ^uZAL. LU e-riš-ti
^uŠA. LAM. BI. TUR. RA
^ušu-ul-tu
^ušu-lu-tu

^uaš-šu-ul-tu
^ua-ra-ru-u
^uaš-šu-ul-tu
^usi-lam-mu
^usi-lam-mu

① K. 4438 B omits. ② K. 4438 B makes one section.
 ③ R. prob. from K. 4345 and K. 4438 B. ④ R. from M '13, VI, 19-21. ⑤ 810 BG. ⑥ Dup. of K 8829, 1-6 PL. 41 (Meissner)

§ 9, BI (part dup. K 4412, rev., PL. 24^①):

450. u a-tir-ti ekli
 še, AŠ, ME, ŠAR
 še, BAR, ŠAR
 u e-zi-zu

455. u a-tu-šu
 u a-tu-šu
 u u-tu-še
 u še. GIL

460. u a-mu-šu
 u še, KUR, ŠAR
 A. GIL. ŠAR

u a-tu-šu
 u u-tu-uš-šum

"
 u a-tu-šu
 mar-tu

u a-tu-šu
 u a-mu-šu
 u a-mu-šu
 u a-mu-šu

u a-mu-šu
 u u-šu-nu-u
 mē uš-šu
 mē uš-šu

Rev. K. 4398 and K. 4412:

u še. GIL
 u zir^② lu-bi-še

[mē uš]-šu(?)
 u ka-za-bu

§ 9, BJ:

465. u ku-ni-bu
 u ku-ni-ip-hu
 u ša-mi HAR, MEŠ
 u mē uš-še
 u SAQ, DU I

470. u u, ub ša kima HI, ŠAR
 še, AŠ, ME^③
 še, BAR

475. u a-mu-šu
 u mē uš-še
 u mē uš-še
 še, KUR, ŠAR

u ku-ni-ip-hu
 u e-zi-zu
 u e-zi-zu
 u "

e-zi-zu
 e-zi-iš-šu
 "

e-zi-iz-zu
 u šu-nu
 u e-na-nu
 a-hu-šum

§ 9, BK. u sa-pa-al-gi-nu

u kur-ka-nu-u

① The order on § 6 differs.
 u ku-nim § 6, ll. 75, 76.

Note u takdananu and
 ② Re-ex. ③ K. 4412 adds ŠAR

Obviously, from the preceding catch-line, Table "D" (K4565 + 4621 + 10024, PLS. 27, 32, 34) follows. § 6 coincides.

§ 9, BK.

| | | |
|------|------------------------------|--------------------|
| 477. | u sa-ap-al-gi-nu | u [kur-ka-nu-u] |
| | u na-mul issuri | u k[ur-ka-nu-u] |
| | u TA. HU. ZA. AH | u ku[r-ka-nu-u] |
| 480 | u UH. TAR. [RA] | u kur-[ka-nu-u] |
| | NI. DIN. *GAM. BA. ŠAR | u kur-[ka-nu-u] |
| | UŠ. E | u kur-[ka-nu-u] |
| | UŠ. E. U. SA | u kur-[ka-nu-u] |
| | u GIR. GAB | u kur-[ka-nu-u] |
| 455 | u LID. GAB | u kur-[ka-nu-u] |
| | u KA. [B]AD | u kur-[ka-nu-u] |
| | u KAK(?) | u kur-[ka-nu-u] |
| | u MAN? LUGAL(?) | u kur-[ka-nu-u] |
| | u er-ti si-kur [m]âti(?) | u kur-[ka-nu-u] |
| 490. | u illat si-kur [mâti?] | u kur-[ka-nu-u] |
| | u LID. GAB ... | [u kur-ka-nu-u?] |
| | u KA. RÙ. *G[AM] | [u kur-ka-nu-u?] |
| | KIŠ. GAM. BA ... | [u kur-ka-nu-u?] |
| | u U. KA. NA(?) | [u kur-ka-nu-u?] |
| 495. | u KUR. GI. RIN. N[A] | [u kur-ka-nu-u?] |
| | u GIR | [u kur-ka-nu-u?] |
| | u kur-ka-nam ša šadi [(i)] ① | |
| | u KUR. GI. RIN. N[A] ② | u PI. [RI. ZA. AH] |
| | UŠ. E. EL. ŠAR | i-šid [kurkani?] |
| 500. | u PI. RI. ZA. A[H] | u kur-ka-nu-u |
| | u PI. IR. [HA] | u ,, |
| | [u KU. RU. UŠ] | u ,, |
| | [u e. li-nu] | u ,, |

§ 9 BL

| | | |
|------|--------------------|-------|
| 505. | [u ha-za-lu-nja] ③ | u pu- |
| | [u ka-sal-lu]-hu | u ,, |

① K. 8249 + 82-5-22, 576, PLS 31, 40, šadi(ma). ② R. from here onwards to l. 30 from K. 8249 + 82-5-22, 576.

③ u. nu § 6, l. 71.

§ 9, BM.

| | |
|---|---------------------------|
| [^u pu·uh ₁ -pu]-hu | u ^š a-mu . . . |
| [^u . . .] MAH | u ^š a-mu . . . |
| -a(?) -ni | u » ina . . . |
| -a(?) -ni | u » ina . . . |
| 510. . . . -pa(?) -ri | u » ina ku-[te-e?] |
| -š _u -di | u » ina ku-[te-e?] |

§§ 9, BN - BP, rt-hand cols. only: -

§ 9, BN (doubtless ^uELTEG in left-hand col.) (512) u-hu-[lu], (513) u-hu-[lu], (514) u-hu-[lu], (515) ^uKi-il-tum: (doubtless left-hand col. ^uELTEG.SI), (516) ^u » kar-ni, (517) ^u » kar-ni, (518) ^uELTEG.SI. MES, (519) ^uELTEG.SI, (520) ^usa-gi-la-[u], (521) ^upi-ir kalbi | § 9, BO (522) ^uman-gu (523) ^usa-me-tu, (524) ^uka-ku-lu, (525) ^uka-ku-lu, (526) man-gu (527) sa-me-tu (528) [k]a-ku-lu (529) . . . -tu (530) . . . -š_u-tu | § 9, BP. (531) ^uku-di-me-[ru], (532) ^u » ina mātu Hat-[ti] (533) ^u » ina mātu Hat-[ti], (534) ^ušah-la-[nu] ①, (535) ^ušah-la-[nu] (536) ^ušah-la-[nu], (537) [^ušah]-la-[nu] . . .

In the gap which follows § 6 indicates ^uUR. [P], PI and ^ual-lum-zu, and possibly ^ušE . . . (^uSI. [D]) belongs to § 9, BU). The rev. of the preceding text is almost certainly K.4417, PL.37 (re-ex.). But K.4412, PL.24, and K.5424, B, PL. 38 + K.11555, CT. XVIII, 18, are more extensive duplicates at this point ②, and although K.4417 was not so full as they are, this is clearly the place to include their material:

| | |
|-------------|---------------------------|
| § 9? | UŠ. GIL |
| 550 § 9 BQ. | ru-si-ma-ti |
| | ^u kur-si-ma-nu |

① Re-ex. § 6 and K.14059, 5, PL.26 indicate this as certain. ② M.'04, 28 pointed out parallelism of K.4417 and K.4412.

| | | |
|-------|------------|------------------|
| § 9BR | ... GAR | u sa - me - du |
| | ... UT | u sa - me - du |
| 555 | ... -ru | u sa - me - du |
| | ... -su | u KUR. zi |
| | ... -su | sa - me - du |
| | ... -DA | u sa - me - du |
| | ... ŠAR(?) | sa - mi - du |
| 560 | ... | u sa-me-du gihtu |

| | | |
|--------|--------|-------------------------|
| § 9BS. | ... | [u] . . - lam - bi - ru |
| | ... SI | u . . - lam - bi - ru |

| | | |
|--------|------------------|-----------------|
| § 9BT. | [u AMA?] . A. NI | u . . - si - tu |
|--------|------------------|-----------------|

| | | |
|---|--|-----------------------|
| § 9BU (cf. Smith, CT xxxvii, 29, I, 31 ff.) | | |
| [u S] I. DI ① | | u [šur-d] u - nu - u |
| 565. [u GAR]. GAN. GAN | | u šur - [d] u. nu - u |
| [u gin] - gi - rum | | u šur - du. nu - u |
| ... - bu | | u gin - gi - ru |
| [u GIN?] . GIR | | u gi - in - gi - tu |
| [zir] sah - mi ② | | zir u GAR. GAN. GAN ③ |

| | | |
|----------------------------------|--|----------------|
| § 9BV (cf. Smith, ibid., 33 ff.) | | |
| 570 [u ŠA]. GI | | u pu - ug - lu |
| [u KA]. DIN | | u pu - ug - lu |
| ... | | u pu - ug - lu |
| ... | | u pu - ug - lu |

| | | |
|--|--|----------|
| § 9BW (cf. Smith, ibid., 37 ff.; and Pl. 32, K 4588, II) | | |
| [u ŠE. BA. RA] | | u šu - |
| 578 [u ŠE. BA. RA] 4 | | [u šu] - |

① S. S. Col. C., 7-8, Pl. 38: cf. § 6, 131. ② See my article

PRSM, 1924, p. 18. ③ K. 8791, c-d, 12-14, Pl. 41 gives
 GAR. GAN. GAN | e-gim-[gi-ru]
 zir " ŠAR | zir ["]
 " ŠAR | ka-r[a? - šu?]

Possibly an indication that CT XIX, 50 follows in order, especially as azupiranu precedes thereon (cf. K. 8791, c-d, 11)

④ Hardly corn.

(For remainder of § 9BW cf. Addenda, p. 278).

K. 4412, PL. 24, and K. 4417, PL. 37 (Cols. III-IV): (2ll. beginning "...):

| | | |
|--------|--------------------------------------|------------------------------------|
| § 9BX. | "a(?) - | |
| | "kaḱ-[ka-da-nu]①. | |
| 585 | "sa-ṣu-um-tu | "ša- |
| | "a-ṣu-ṣi-[im?] ^② tu imeri | "ša- |
| § 9BY. | "A.MEŠ. ŠA. A | "a-la-[pu-u] |
| | "ŠA. A. A. MEŠ | "a-la-[pu-u] |
| | "išbatu ⁱ kirū | "a-la-[pu-u] |
| 590. | šammi nāri | "a-la-[pu-u] |
| | "ha-mi nāri | "a-la-[pu-u] |
| | "i-lat ^③ ekli | "a-la-pu[u] |
| | ha-am-mu ša be-ra-ti | e-la-pu-u ša A. [MEŠ] |
| | "AŠ. HAR. . . . | "mi-ik-ti ha-am-mu- . . . |
| 595. | [u] ša GIŠ.MA | ha-am-mu] ša be-ra-ti ^④ |
| § 9BZ. | GI. KA. LUM. MA | "kur-ṣib-ti ^⑤ ek[li] |
| | ZIṬ GI. KA. LUM. MA | "kur-ṣib-ti ^⑥ ek[li] |
| | GI. KA. LUM. MA | "kur-ṣib-ta-[nu?] ^⑦ |
| § 9CA. | "GI. KA. LUM. MA | "e-pi-ta-a-tu |
| 600. | "LAM. MA | "e-pi-ta-a-[u] |
| | "KIN. TUR | "e-pi-ta-a-t[u] |
| | "e-li-ku-nu | " » ina šu-ba-r[i] |
| ⑦ | "ki-li-tu | " » ina šu-ba-r[i] |
| | "kul-li-tu | " » ina šu-ba-r[i] |

① B. tentatively from § 9CJ. ② Re-ex.: perhaps room forit. Imeri at end is clear. ③ § 6, variants, i i[lat ekli] i. ellat ekli. ④ K. 4412 omits this line. ⑤ K. 4412, ta. ⑥ On K. 4412 and K. 5424 B, § 9CA precedes § 9BZ. ⑦ Here begins K. 5424 B, PL. 38.

| | | |
|--------|----------------------------|---|
| § 9CB. | u ¹ kam-ti ekli | u |
| | u ¹ šAR ekli | u |
| | u ¹ šAR ekli | u |

§ 9CC (restored from Smith, CT. xxxvii 28 (IV, 1ff); see Addenda, p. 274)

| | | |
|-----|---|-----------------------------|
| | u ¹ [kam]-me ekli pišû(u) | u ¹ tak aš - har |
| | u ¹ [kam]-me ekli arku | u ditto |
| 610 | u ¹ [kam]-me šadi(i) pišû(u) | u ditto |
| | [u ¹ kam]-me gur.gur.ri | u ditto |

§ 9CD. [u] šim(?). RA | [u¹ ši - bu - ru?]

Here follow u¹ šiburu and u¹ tarmuš (ararianu); see CT. xxxvii, 28 (IV, 7 and 12) and Addenda, p. 276. Then K. 4412

(§§ 9BI: 9BJ) followed by

§ 9CE (restored from Smith, CT. xxxvii, 30, ll. 31-32)

| | | |
|-----|-------------------------|---|
| 620 | [u ¹ KAK. Uš | u ¹ šal-la-ar za-bi-[tu?] |
| | [ditto?] | u ¹ KAK. KU. Uš (or kak-ku-uš) |
| | [KAK. Uš. TUR. RA] | ša-t[] (or [d]a) . . . |

| | | |
|-------|------------------------------|--|
| § 9CF | u ¹ KU. NA(?) | [u ¹ sa]-aq ² gi-la-[tu] |
| | u ¹ iš. KAT ditto | [u ¹ sa-aq]-gi-la [tu] |

Then (after a gap?) S.B. PL. 38, a reverse, continues the order, according to § 6:— (Left Cols. only) (630) u¹ AR.

HAR(?) ZA. GAN. NA (631) u¹ LAGAR (632) u¹ LAGAR. BAR. RA (633) u¹ šim.

(634) u¹ NIM³ (635) u¹ NAM. TA. E⁴ (636), § 9CH u¹ AMA. A. NI (see p.

277) (637) u¹ AMA. A. NI (638) u¹ ša⁵ TUR. A. NI (639) u¹ ša⁵ TUR. A.

NI | § 9CI (640) u¹ šA...⁶ (641) u¹ A. ZAL(?) . . . (642) u¹ A. Z[AL?] . . .

(643) u¹ A. Z[AL?] . . . (644) u¹ . . . | (Cols. A-B, ll. 1-8, § 9C3, p. 3).

① § 6 u¹ kam-me ekli, u¹ kam-me arku, u¹ kam-me a-gur-ru for this group. ② CT xxxvii sag. ③ § 9BC, l. 412, = u¹ suadu. ④ K. 4184, T. 1, PL. 46 = u¹ su-palu. ⑤ § 6 omits ⑥ Cf. p. 17, l. 344 u¹ šA. PA, but hardly likely. CT xxxiii, 34, 35: AM 1, 2, 40 "seed of u¹ šA. PA".

| | | |
|---|--|---|
| § 9,CT. 660. | u zir KU. LAL u KI. AN. ŠIŠ. KI u KI. AN. ŠIŠ. KI | u zir ka-ka-da-nu su — pa — lu a-su-si-im-tu |
| § 9,CK. | u MUR. DU. DU u AŠ. PI. PI 665 u GIŠ. MA + GUNU u GIŠ. MA + GUNU. GIŠ. GI | mu-ur-du-du-u aš-ta-be-lu ha-aš-hu-ra-ku ha-aš-hu-ur-a-bi |
| § 9,CL. | u u u NI(?) ELTEG(?) . . . 670 u AM.SI.① HAR. RA. AN. NA [u AM.SI]. HAR. RA. AN. NA | [k]a-zal-lu [pî-za-al-lu-tu]② |
| CT XIX, 50, and S. 387 (PL. 29) give the Alliaceae, etc., but the exact position in order is doubtful | | |
| § 9,CM. | [GA. RAŠ.] ŠAR ŠAR KIN. ŠAR 675. [ŠA(?) . KU]D③ DA. ŠAR [ŠA(?) . KU]D③ DA. ŠAR . . . LAL. [GA. RAŠ.] ŠAR . . . LAL. GA. RAŠ. ŠAR : [išid] GA. RAŠ. ŠAR 680. [zir] GA. RAŠ. ŠAR zir GA. RAŠ. ŠAR | ka-ra- [šu] gi-ir-ša- [ti] pit- uš-šu-ta-a-ti ki-is-mu ši-ni-tu bi-is-tu GAR. EŠ. ŠAR: bi-is-tu iš-di ka-ra-ši iš-di ka-ra-ši zir ka-ra-ši |

① Correctly emended by Meissner from my ŠIM. Re-ex.

② Langdon ka-ni-ib-tu (RA 1916, 33, 11). I prefer my old reading for the last two characters, lu-tu, which make the word ka-zal-lu-tu equiv. of (u)AM.SI.HAR.RA.NA and uznatum (ibid). ③ R. from 81-2-4, 271, PL. 26 (L. 7).

§ 9, EN

| | |
|------------------------------------|-----------------------------------|
| HI. IS. [ŠAR] (1) | ka - as - su (1) |
| HI. IS. TUR. ŠAR: g[u-za-zu] | HI. IS. TUR. ŠAR: [nu-ra-ru] (1) |
| nu - ta - ru ŠAR. | [HI. IS. ŠIŠ. ŠAR: mar-ru-tu] (1) |
| 685. HI. IS. IH (2) ŠAR: š[hu] (1) | . |
| HI. IS. LIK. KU [ŠAR] | . |
| HI. IS. UR. BAR. RA. [ŠAR] | . |
| ZIT HI. IS. [ŠAR] | . |
| MUH. AŠ. AŠ. Š[AR?] | MUH. AŠ. AŠ. ŠAR |

§ 9, CQ

| | |
|--------------------|--------------------|
| 690. ŠAR | šu - [> (?)] (3) |
| ŠAR | zir pa-ar-g[a] |
| [ZAG. HI. LI]. ŠAR | sah - l[u] (4) - u |
| ŠAR | zir sah - [lu-u] |

§ 9, CP

| | |
|-----------------|--------------------|
| [ki]-tu-u | zir KIT. ŠAR . . . |
| 695. UD | . |
| ŠAR | . |
| ŠAR | . |

Perhaps still belonging to this Section is the continuation on the Reverse of S. 387:

| | |
|--------------|----------------------------|
| | ŠAR: ti(?) . . . |
| | ŠAR: zi- . . . |
| 700. | ŠAR: ka-at-nu |
| | ma(?) - šu - mi |

§ 9, CQ

| | |
|-----------|----------------------|
| | ŠAR: ba-hu-r[u] |
| | da-nu- . . . |
| | ŠAR: tu-b[a(?) - ku] |

§ 9, CR

| | |
|---------------|----------------------|
| 705 | -tu- . . . |
| | -ru . . . |

(1) From S. 1316, PL. 35. (2) So, but S. 1316, ŠUD. (3) § 9 BW. (4) Re-ex.

30. § 9CS : 9CT : 10A.
 The other side (called Obverse in CT XIV) may be Rev.

§ 9CS.

 710.
 nu- .
 a-za- [al-lu-u?] ①
 a-za- a[?]-lu-u?] ①

§ 9CT.

 715

 an-tah- [šum]
 an-tah- [šum]
 an-tah- [šum]
 šaq-šur : kar- [šum]
 kar- [šum]
 kar-šum šar : kar-...
 šu-ih-hi-ru
 [pa]r-ri-? : kiš-...

§ 9CU
 [NU.LUH.HA.ŠAR]
 720.

 [nu-hu-wr- [tum] ②
 [ti]-ia-a-tu
 . . . -ra-tu
 . . . -nu-u

The Rev. Col. of K. 8667 ends . . -tu, . . -tu, . . -mu,
 . . -tu, . . -tu, . . . , . . -pi-tu, . . -pi-tu

We can now discuss these plants in their ancient order.

§ 10A, L. 1. ŠAMMU = "PLANT, DRUG".
 Like 𐎧𐎢𐎠 (Kii 6), = "drug" (v. also Jastrow, PRSM, 19, VII, 153). This also includes dyes (§ 9R, AQ).

§ 10A, ll 2-5. "DIŠU (𐎠) = "GRASS".
 From √dašû "sprout", long ident. with 𐎠𐎢𐎠.
 Q6, 1/6, SULLIM (but see šam balitti, § 10E): 31, 6, 12,
 "SULLIM: "di-šum (84, 4, iii, 2): "du-šu (ib. 6) (53, iii 8)
 ① M. '04, 30. See § 9AT. ② M. '04 31, based on K.
 4588, Pl. 31. We may thus have to include zibû in § 9CU.

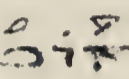
§ 10, A, U. 6-13: B, U. 2-7.

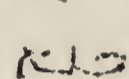
"URBATU (3), "ELPITU (2), "ŠIŠNU, "ŠIŠANU (1), "AŠLU (6) =
 CYPERUS, BUTOMUS, and similar rushes.

"URBATU: (a) Simply (2) (29, 3, 10, 12) stomach. Ext. to eyes (Scheil, RA XV, 75, urbatu himū^①); to womb (KAR 194, IV, 30).

(b) Root (1) peel, eat alone (92, 7, 6, snake-bite).

(c) Seed, bind on, (Kii II, II, 39). Heb. 274.

IDENTIFICATION:^② HWB 128, = 

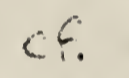
"rush" urbatu^③ = urbanu (VR 47, 250), i.e., "ur-
 bannu (Klauber, Pol. Rel. 160).  = البردى (PS 367)

Cyperus papyrus, L. (Löw, 54) the rush of S. Baby-
 lonia, with edible root (cf. Hdt II, 92). Cf. Bu 89-

4-26, 112, 4, PL. 43, "urbate III sippu-šu "3-cornered
 Cyperus" (as Mr. Gambier-Parry suggested to me), for

which cf. Pliny (NH XXI, 69) "another kind of rush of
 a triangular shape to which they give the name Cy-

peros." Shalmaneser (Mon. 77) speaks of boats of
 "urbate (as opposed to his "boats" of skins) i.e., the

same ~~wood~~rafts and skiffs as are made to-day in
 Mesop. (For urbatu cf. ).

[u]GAL: ["urbatu] i.e. "the great plant" (§ 9AK, 289)

Diosc. (I, A) prescribes cyperus root for urine, scorpion-
 stings, and ext. to womb. (Cf. IMP II, 1357, roots

of C. rotundus, L., as diuretic, emmenagogue, and
 diaphoretic in Ar. and Persian writers).^④

① Scheil translates "fat".

② VR 202 gives, for

Cyperaceae: "generally growing in moist places ... stem
 a cylindrical or triangular culm (i.e., III sippu-šu)...
 the leaves sheathing (cf. šallopanu)... resemble the
 grasses."

Ungnad (ZA 1917, 250) shows GUG.ŠE
 cultivated in old-Bab. times (BE VI, No 9, 1: 29, 1: 39, 8)
 which he regards as a kind of flax, comparing KU.GUG,
 = lubuštu.

③ "Rubatum § 9AK, and rupatum (at
 end of § 9A) are obviously variants. ④ For a photograph
 of the Cyperus, see FTP, frontispiece.

"URBATU is thus CYPERUS.

— "ELPITU I compared to ḪḪḪḪ (PSBA 1906, 225). It is ḪḪḪḪ ḪḪḪḪ, Schoenanthum. EXT., for eyes (Schoil RA, XV, 75, 8, called himû): as "ḪḪḪ (2), bound on feet (79, 1, 24), its root used (98, 3, 3). § 9 AUO, elpitum mē burki ① "rush for wine", hardly catheter, probably = "diuretic". Diosc. (I, 16) says the Schoenus is called Babylonian, the flower and root being used for menses, urine and wind. Gerarde (40) says the Schoenanthum has leaves like the Cyperus, C. Schoenoides, Griseb., grows in Syria (BFO V, 368) and C. longus, L. in Mesopotamia (Von Opp., II, 388).

— "AŠLU = جول (= Suaeda monoica, Forsk., LXIV) =

سدر, Löw 55. AM shows it as a pliant/rush, e.g., "TIR (6) is plaited with white wool (19, 1, 24), and with sinew of gazelle, etc. (20, 1, 30 for temples). Cf. also 102, 24; 104, 1, 13; Langdon, PBE xxxi, 60, 5. The seed of aš-li uš ("male") used for eyes (12, 4, 5; 12, 4, 7 fumigate); "TIR simply (100, 2, 10) ②

— "ŠIŠNU = шишн шотухос, junci genus (HKB, 87; cf. Löw 55) = Butomus umbellatus, L. In Russia the root of Butomus is used for hydrophobia (cf. urbatu for dog-bites) (HS 442). But šišnu is not quite urbatu, for § 9 AJ L. 291 chews [šī]-š-nu ut-liš = "wb[a-tu]"; i.e., šišnu vulgo, urbatu.

— "ŠIŠĀNU (1) (9, 4, 8) obviously a variant. Zimmern "wohl zu hebr. šōšān" (AF 58) is not entirely satisfactory. Cf. § 9 AJ.

— "ŠALLAPĀNU (1) (82, 3, 11) prob. šalāpū "draw (a sword)" from its sheath-like nature. Drink for lungs (KAR 203, 14, 26).

— "KUNGU (1), the "seed" of Cyperus, given also = "ḡūru, (possibly "kiḡru, Jensen, ZK II, 26; كيرا "palm-marrow" from the top of the palm, of a pith-like appearance but firmer, which is eaten in Mesop.)³ in cataplasm (77, 1, 24): cf.

① Cf. "ḪḪḪ. BUR. RA, PL. 4, IX, 4. ② Cf. IMPI, 640, if seven pieces of Viburnum foetidum, Wall., are knotted with a thread of cotton picked by a virgin, the necklace thus made will cure scrofulous glands. ③ Cf. mitru = ميترو, Schoenanthus, Löw, 187.

^lkun-[qu], § 6, l. 83). Interesting is a comparison with Berosius, (Cory, Anc. Frag., 56) "and in the lakes [of Babylonia] were found the roots called gongae, which were good to be eaten".

— PAPĀNU, not "melons!!" (HKB, doubtless comparing & 1909). Used to surround sick man's bed (Scheil, RA XV, 75, 10, called himū); i.e., a magic circle (like flour or pebbles, of Sem. Mag., LIX). (Is there any linguistic connection between papānu and nārtupos?)

— HADILU occurs in a list (Moolk, RA, 1920.161, K.9092, 7, 6).

— UMSATUM (§ 9 A, l. 6), hardly *hearnia*, *Rumex acetosa*, etc., or *zizyphus cicer* (HKB 61), since this is the group dealing with rushes. Cf. PL. 40, K.14051, 3, 4.

— KUNITTUM must be a fem. from *kuninu*. Cf. MA A. V. ; KAR, No 155, iii, 15: CT XIV, PL. 47, 47339, 14: GI. GAR. ŠUR.KA = ka-nu-u ku-nin-na-a-tu: PL. 48, 36331, 7, GI. BAR. NUN = ka-nu-u ku-nin-na-tu: PL. 49, 36481, T.1, ... ku-nin-na-tu. Cf. K. 1130 "reed-work".

— KILILU (= ^UTIR, § 9 C). Perhaps = "crown" ^UŠŠ'ŠŠ, or cognate to it, "urbatu" being a plant rush.

§ 10 C, 2. LI.TUR, LI.TAR, LI.TUR, "ABU(K)KATU (45)

(a) HIL "gum" (always with LI.TUR (19), LI.TUR(1), LI.TAR(9), and 4th. out of 6 with abukatu. EXT, 32, 5, 4, 7: eyes (9, 1, 30: 12, 4, 13): amount (97, 4, 16): hind breast (26, 3, 4): chilblains (32, 5, 12): allanur (43, 1, 8): wash (94, 2 ii 10). INT. (Kii III, III, 1: III, IV, 3): stomach (39, 1, 43: 40, 1, 48, 50): urinary (66, 7, 14). Fumigate (80, 6, 5: 99, 3, 6): Enema (94, 2, 4).

(b) "Gum of LI.TAR šadi(i) (1) (83, 1, 5), and "gum of abukatu šadi(i) (1) (14, 7, 6).

Except in lists, the det. " is found only with abukatu, and even then not always. "Ašlukatu is an equivalent. (§ 9 C 2, 116, 8).

IDENTIFICATION. Important is its affinity to rushes,

34. 𐎎𐎗 10 C 2 : 10 C : 10 C 3.
 in 𐎎𐎗 9 C, and with "kazallu, ib 10 (cf. 𐎎𐎗 9 CL, l. 667), the
 latter occurring in AM (2) (apply feet, 74, l. iii, 3) ① The "sweet-
 scented rush" of Pliny (NH. xii, 18, Bostock) is thought to be
 an Andropogon, distinct from Acorus calamus, L. On
 A. Schoenanthum see Sprengel, Diosc. ii, 354. A. nardus, L.
 (India) gives Citronella oil, long considered nard by the
 older commentators: A. citratus, DC, gives lemon-grass
 oil. The grass-oils are carminative (FH 725).

𐎎𐎗 10, C, and C 3 : U. P-16. Cf. 𐎎𐎗 9 BY.

"išbābtu (coarse grass, spinach): ARANTU (ii) (aromatic grass,
 agrostis): ALAPU (hay).

These are so inter-related that they are best discussed
 together. A broad, but vaguely retained distinction is to
 be seen in 𐎎𐎗 9 C, l. 11, "ša-mi šēri "desert plant", and 𐎎𐎗 9 BY
 l. 590, šāmmi nāri "river plant". The position so early in
 the lists after "grass" is some guide.

Philologically, išbābtu may be connected with 𐎎𐎗 𐎎𐎗
 "grass", with redupl. third radical (like alkaktu,
 illaktu, ʾemintu, aršāšā ②). L. 11 shows that it grows
 in the desert; 𐎎𐎗 9 BY, l. 589 gives "išbābtu of the gar-
 den = "alapp[?]." "GAL. ŠAR, 𐎎𐎗 9 C, l. 15, indicates a
 "large" vegetable (cf. [?] GAL; 𐎎𐎗 9 AK, l. 292). "KANKAL,
 its equiv., = "arantū, which is a plant springing
 up in ruins (see Langdon, HRT, 6, 10, translated "thorns").

① In the same group in 𐎎𐎗 9 CL, l. 670, [pizalluru], prob. masc.
 of "pizallurtu (2), used alone to anoint swelling (73, l. ii 7)
 (pī occurring for ka, 99, 3 v 14), cf. pizalluru šā seri =
 humlibittu (Weidner, ASSL, 1922, 198). ② Išbu is rare,

(cf. the tribute of Arabia "gold, išbi šadē, horses, camels,"
 (103 ii, 54, 27), and Harper, Letters, II, No 209, 7. "the weavers of
 the temple have not gathered their išbi." Here išbi can hardly
 mean rushes for mats, as a special staff would hardly be
 kept for mat-making. They may have been dyers, and išbi
 perhaps refers to special plants for dyes.

the same ideogram having the value also of beriktu (𒀭𒀭) = "green stuff", and nidutu (𒀭𒀭) "sprouting", Br. 9761, 9759. ^① KANKAL is ginut ū, ME "produce of the canal" (K. 65, IV, 18, quoted Tallqvist, *Maglû*, 25, n. 1: IVR 8, IV, 18); cf. *Maglû* III, 178 "like KANKAL on the banks of atabbi (canal)", and K 235 (ib., note) "cleansed me like KANKAL"; also *Maglû* I, 25 "I shall be clean like KANKAL". "Arantu appears thus to be some plant which springs up in ruins, at the side of a canal, or, more probably (as often happens in S. Babylonia) is daily submerged by the tide amid the Palm-groves on the Shatt el-Arab (Lucerne, grass), and so "cleansed". "Arantu will therefore be either 𒀭𒀭 (if the text is right, cf. Löw, 61) "chamaeleon herba" (PS. 393, perhaps: ὀροβαύλη) or 𒀭𒀭 "grass", by metathesis of m and n, with a change of m to n before t like pēntu = 𒀭𒀭^②. The view that the "Arantu is periodically submerged is borne out by § 9 C, L. 16, "KI.DI = arantu, the Couch of the god AZAG", i.e., the Water-god Ea, who, by the daily tidal flow, appears to "take his rest" on the "arantu" (cf. of the ¹Kiškanû, ²Kišsu-šû maialu ša ū: D.A.AM, CT. XVI, 192). There would be no point in it if we saw in this merely the herbage at the side of a canal. The coarse grass which grows amid the date-palms and is thus flooded daily is called in Basrah ³šeiir. But "arantu" has a wide equivalence. In § 9 D, 19 it = "basarratum, "spurge" (which has a white milky juice: L. 24 it = "luluti, "flower": § 9 C, 3, L. 4, it = "SAQ. 𒀭𒀭. In Sm. 122 (Langdon, RA 1916, 31) we find (3) šam-ra-a-nu: "a-ra-an-tu: "a-la-mu-u (4) šamme. MA. 204, followed by (1) [Enuma ina bitî?] "KANKAL: "a-ra-an-tum in-

① Fossey, *La Magie*, 90, sees in it pitru = 𒀭𒀭 = wild licorice, impossible here. Hommel, for arantu, suggested 𒀭𒀭 "laurel(?)" (PSBA, 1899, 136) obviously impossible. ② It can hardly be 𒀭𒀭 *Hypericum crispum*, L., Mesop. (Von Opp. II, 374)

36. 𐎗𐎗𐎗 10, c and c, 3: ll. 8-16

nammar, and then (l. 9), "a-ra-an-tum": "La-ar-du. In other words, fennel, arantu, alamû, are HA.ZUN plants: "HA = fennel: i.e., either odoriferous or umbelliferous plants"; "arantu may appear in a house, when it = lardu (cf. the "ruins").
"Arantu thus appears to be lucerne, green-stuff, grass, and even spurge or nard. "arandi in AM 33, 1, 38, is boiled with kukru and put in ears: Gwynn, prob. rightly (PSBA 1914, 243) translates "nard-grass". "Nard-grass" occurred in profusion in Gedrosia (Arrian, Exp. Alex. 6, 23, quoted Sprengel, Gesch. d. Botanik, 1817, 1, 10) ^①. It is probably the ^{سنبلیله} "nard" (Von Opp. II, 388: 13 1237) *agrostis verticillata*, Vill., a grass growing in Hauran and Mesop. (rivers), used as fodder (cf. Post, 865, sanbaleh).

^{11h p.} "Mallattu = ^{ملاطو} ~~malatu~~ *Atriplex halimus*, L., a Syrian Spinach (Löw, 338: Post 683: BFO, IV, 916), at Carchemish. I ate a kind of spinach ("حشيش بريه") perhaps "ša-mi šari, unless this is *Salvia deserti* Dec.) Ainsworth (Assyria, 36) says that the Euphrates Expedition ate a kind of spinach. (cf. Diosc. I, 12) ^②

Still more interesting are ll. 9-10: "išbattu-herb like oak-galls, šitum (growth?) like "išbattu, its fruit green and hard". *Salvia pomifera*, "the apple-bearing sage" certainly offers an explanation: "a native of various parts of the Levant. It is remarkable for being liable to the attacks of an insect of the *Cynips* genus, which produces galls upon their branches (PC, xx, 373).


"išbattum [akli], "i. [of the field]" = *sisatum*, surely from *sisu* "horse", i.e., fodder, lucerne (like *aspasti*, MA, 62, Meissner ZA VI, 296 = *asp-ast*). It cannot be ~~as~~ *mespilus*. KAR 203, 65 gives ["i]šbattum as "a drug for ašû."

"Alapû, perhaps ^{صيلة} ~~alapu~~, *Poa multiflora* and *P. Cynosuroides*, a high, coarse grass growing near water (Lane, 628) ^③. Post (834, and Dictionary of Bible, IV, 212) gives *Cladium*

^① Nard is now identified with *Valeriana jatamansi*, DC. For the Syrian equivalents (*V. Celtica*, etc.) cf. FTP, 166; Pliny, NH, XIV, 27.

^② A scorzonera grows E. of Mosul (Ainsworth, Assyria, 36).

^③ *P. Persica*, at Kalah Sherghat (SH 83).

Mariscus, L., the "twig-rush", and *Eragrostis cynosuroides*, Roem. But, in view of its association with *hami*, *hammu*, and *alapû*, I think *alapû* "hay" is the better comparison for *alapû*. "Hami nâri and *hammu ša berati* (= *alapû ša methš*) (II. 595, 593) must be referred to ~~alapû~~ "hay", i.e., "hay of the river" and "hay of the pools". Mikti *hammu*.. (I 594) uncertain Cf. II R 27, 58 a-b [Jumuna  = a-la-pu-u (and Br. 10263)

in AM *alapû* (without det.) is reduced in fire (17, 1, 2-; possibly 89, 1, 3 for eyes). *Alapû ša pân me* (without det.) (1, 2, 17, 20) is used for *samanu* of head ①

To sum up. šararšu appears to be vegetation larger and coarser than grass, including spinach and lucerne; ARANTU is akin, but shows aromatic properties; ALAPU is less the coarse bog-grass than hay.



§ 10, D, II. 17-26. ATIRTUM, HASARRATUM, ANUNUTUM (3) KANTI EKLI (1) (87, 5, 2), KASĀ AMHARA, *Euphorbia helioscopia*, L., Spurge.

This is distinct from "atirti ekli, *Lithurus* (§ 9 B), 1418) IDENTIFICATION: "al.gil arku "green(yellow) flower", "kanti ekli "field-bane", and "kanti eršī "cultivation-bane" give the clue. *Euphorbia helioscopia*, L., is a common weed with green flowers and an acrid milky juice, growing in cultivated and waste places (Benham, HBF, 458: HPP 148); seen at Kalah Sherghat (Herzf. 32: SH 29). *E. Gailardotii*, Boiss., was seen between Mosul and Nisibin (called *š, er alē*: "yellow bakla", Von Opp., II 387). The juice of both is poisonous, accounting for its rare use in AM. The sign *hasarratum* (v. *hasarratum*) is comparable to *š, er* injuria affectit, and reappears by a change of r and s in the Ar. "Chormesch,"

① I was told the Ar. name of two water-weeds in Basrah: a *salvinia* (identified for me by Mr Carter), called *wahzham*: and a plant growing below the surface, *Sumbelân*, eaten by cattle. The *Ranunculus aquatilis*, L., is called *š lint*.

38. §810D, ll 17-26: E, ll 27-39.

E. articulata minor (Forsk. cxii), and خريش *E. antiquorum* (β) *minor* (ib. 94) and in the Ar. of India "harruseah" (*E. helioscopia*, IMP ii, 1132). In India the juice is applied to eruptions; used for rheumatism: the seeds for cholera (with roasted pepper): the root as anthelmintic. The evidence that *hasarratu* = *E. helioscopia*, L., is so satisfactory that it is not worth while suggesting *trunculus* as a possibility.

"ATIRTUM (v. "ATAR," ATAR, "ATARTUM," ATANTUM), possibly אֲתִירְתּוּם "crown", referring to the broad, leafy head, "Atirtum (l. 23) occurs in the equation "kasû amḡara = a-telḡi-as-tum = hasarrat (Langdon, RA 1916, 33). "ANUNUTUM, perhaps akin to אֲנֻנֻטּוּם, used for butting in the noses of lambs to cause worms in their heads to drop out (Levy, NHW, 1, 83). "LULUTU, applied here to the spurge (as "red lulutu" is to Poppy) must refer to the flower (§ 7); "LULUMTUM (PL 23, K. 259, +) applied to toothache. For "arantu, § 10, c: "amḡara, "kasû amḡara, and kasû, § 10, A G.



§ 10E, ll. 27-39. "ŠAM-BALITU, *Trigonella foenum-graecum*, L.

Ident. by Meissner (MB 63, šam ba-lil-ti šAR: MVAG'04, 3, 27, 39) שָׁמֶ בַּלִּיתִי, fenugreek. (= שָׁמֶ בַּלִּיתִי, the same, Meissner ibid.). Restore PL 46, Rm ii, 203, o. 2, "ša-mu ba-[lil]-tu, and cf. CT xi, 45, iv, 4. Ainsworth observed it (Assyria, 36, called "hulby"). The equivalence is proved by l. 34 "tuldi = "ladiru (i. e., "šam-balitti) in Šubari", i. e., שָׁמֶ בַּלִּיתִי fenugreek, Rm ii 203, o. 3, PL. 46 giving "tul-tu, nearer the Phoen. טִילְדוּ (Löw 317). It must not be confused with šam tul-te "anthelmintic" (CT xiv, 23, K 259, 7, presumably a special drug for worms).

"MUH. AŠ. AŠ = "eristum; i. e., strong smell, the seeds

① i. e., from its yellow flower and acrid properties. R. Asiaticus, L. and R. lomatoctopus, Fet M (Herz. 135, 136: SH 33). For other kinds cf Löw 258: BFO, I, 39, 57. †

§ 8 10 E, ll. 27-29: G, ll. 60-73: H, ll. 74-79. 29
 of fenugreek having a strong smell (cf. "MUH.
 AŠ.AŠ.ŠAR, § 9 CN, l. 679, describing *Lactuca virosa*, L.,
 also a strong-smelling plant). "NAM.TAB.EA.ŠAR
 ("double-plant?"), perhaps from the flowers of the
 fenugreek set in pairs. For *ladira*, § 10 AG.
 "ŠIBIR.ŠAR = šar. ba-lil-tum, CT. XI, 45, IV, 4. (cf.
 AM 98, 2, 10). K 8791, PL. 41, exchanges "ŠIBIR^{ŠAR} for
 "ŠE.MULU, ŠAR, = kisibittu, i.e., kusibittu^{ŠAR}
 of MB 33, ident. by Meissner, ZA VI, 294 with ~~𐎠𐎢𐎽𐎢𐏁~~
Coriandrum sativum, L. The next four words are
 nearly the same in both, except that ŠIBIR is re-
 placed by ŠE.MULU. Since l. 39 gives "saffron,"
 šillanitu (l. 38) must surely be some black powder,
 possibly *Xanthium strumarium*, L. ① "GİŠ.MI
 (CT. XI, 46, IV, 4-10) also = ku-ša-ru, ši-il-lu (𐎠𐎢𐎽),
 tim-mu-ša-tum (𐎠𐎢𐎽𐎢𐏁, tinctura), ka(?)-ma-su,
 ku-bu-[u?], etc. šahittu (šihittu), probably =
 šahintu = šahintu, from 𐎠𐎢𐎽 "blacken".

O

§ 10 G, ll. 60-73, see § 10 I. § 10 H, ll. 74-79
 KİŠŠŪ, CUCUMBER: UBANU, CUCUMBER OR HIBISCUS
 ESCULENTUS: "HUL.TI.GIL.LA (5), MELON: "HUL.LI.LI.GA
 LILIGŪ, COLOCYNTH. = 𐎠𐎢𐎽?

Kīššū 𐎠𐎢𐎽𐎢𐏁 (see Jensen, ZK II, 424) "cucumber"
 Ubanu "finger", perhaps = 𐎠𐎢𐎽 "lady's fingers"
hibiscus esculentus, plentiful in Mesop. (cf. vulg.
 Ar. 𐎠𐎢𐎽 "thumb"), but may be a cucumber. Šaruru
 (Jensen ZA, I, 53), 𐎠𐎢𐎽: "Gurkenshössling" (zim-
 mern, AF 58). But cf. šaruru = "poppy capsule", § 10, I
 which would probably indicate its shape as a cucumber.

Taking "HUL.LI.LI.GA (liligū) next, l. 24
 shows that there is a liligū of the mountains.

① I have seen this growing near Basrah (identified
 for me by Mr. H. G. Carter, of the Botanical Survey, India).
 I was told it dyed clothes black (see § 10, AF).

40. § 10 G, ll. 60-73: H, ll. 74-79: H2, ll. 319-320.

The description, l. 73, kiššû-ša gumamati "cucumber of the desert", which is tamšil aruni "like a ball" (aruni from 𐎠𐎢𐎡𐎴 "throw") is obvious to anyone who knows the desert. It is the Colocynthis, Citrullus colocynthis, L., which I have often seen in Mesop and the Sinai desert, a trailing plant growing wild, with a spherical fruit like a cricket-ball. It is probably the "gourds" of II KI. IV 39, 𐎠𐎢𐎡𐎴 (cf. 𐎠𐎢𐎡𐎴 "ball"): cf. pikḫuti ŠAR (MA 87), compared by Meissner, ZA VI, 297. Does "HUL.LI.LI.GA = KOLÓ-KUV" is philologically.

This being a Cucumis with a spherical-fruit, we are entitled to see something similar in "HUL.TI.GIL.LA, the "melon". I have unfortunately lost my reference to the scholar who saw "Egyptian" in Musritu, presumably the watermelon. "HUL.TI.GIL.LA (= ...-bu) being "melon", "H. of the Mountains must be similar to those excellent melons obtained in Mosul from Al-Kash. "Tigilû = a drug for sickness of midri (PL. 43 S. 60, 4). In AM, "tigilû (1) (55, 4, 8): "tigilat šadî dyspnoea [drink] (59, 1, 36): "HUL.TI.GIL.LA (68, 1, 31): bind on seeds (52, 5, 15): juice used (68, 1, 7). In Diosc. II 162, leaves of οίκυς used EXT. for dog-bites: seed INT.: of the πέρων (ib 163), pulp for eyes, and as diuretic: juice and seeds EXT.

§ 10 H, 2 (= 10, AN), ll. 319-320. "HUL.TI.GI.LI (1) "HUL.TI.GI.LI.KUR.RA. KIL BALI: ŠADĪ, Scabellium elaterium, Rich.

Probably included here because HUL is a cucumber-like fruit, and placed after ŠIS: NIM because of bašti in its composition.

§ 10 H, 2, U. 319, 320: 10 G, U. 60-73: 10 I, U. 80-95 41

It is called ŠĀ. KUR. RA "stomach-enemy" (as opposed to ŠĀHUL. LA "stomach-comfort" of fennel, in the text published by Langdon, RA, 1916, 31 ff): its Assyrian name = "Gum of the pudenda-plant of the mountains".

IDENTIFICATION. All this agrees admirably with the *Ecballium elaterium*, Rich., the "Squirting Cucumber" of maritime Syria and the Caucasus (BFO, II 760), a powerful cathartic (P. 480), the part used being the sediment from the juice of the fruit. The ripe fruit, about 2 inches long, roundish, green, and fleshy, ejects the seeds with a mucilaginous juice (PC XV, 312). In Ar. *Kittha el-homar* "donkey's cucumber" has perhaps the Assyrian idea^①. (Post, 324). Diosc. IV, 155, describes the method of making elaterium. HUL. TI. GI. LI (1), 40, 5, 17, with others (including opium) in a prescription for a man suffering from *hinikti* KU. GI. G.

§ 10 G, U. 60-73: 10 I, U. 80-95. "HUL. GIL (40), "IRRŪ (1), "APARŪ, ~~KARRIANU (1)~~, Papaver, POPPY, OPIUM.

Before we discuss the lost group of § 9 G, which occurs before the cucumbers and colocynth (which will presently be seen to be "HUL. GIL) let us take § 9 I, 9 K. They, and the lost group contain

① Gutter-speech of Šarah gives, I believe "carrot" = penis. Major E. B. Soane says that خیار is used similarly in N. Persia

42. § 10 G, ll. 60-73: 10 I, ll. 80-95

the most important plant names in all AM.

§ 9 I, l. 80. "Daughter of the Field" = araru: l. 83. "araru in the language of the people is lululu sântu ("red flower")" ① obviously poppy. The red poppy (Diosc. IV, 64), doubtless *Papaver rhoeas*, L., is one of the beauties of the Mosul fields. ② More important is *P. somniferum*, L., whence opium is obtained. With the idea that we have now opium and the opium-poppy before us, we can discuss fully § 9 G, J, K, which are all closely allied.

"MĀRAT EKL" "Daughter of the Field", already discussed.

"ARARU" "Poppy" (*araru*, 𐎠𐎢𐎡𐎢 "curse", reappearing in another name "AŠ.DUG.GA, šammi arati tarai"?) "drug for laying a curse," ③ perhaps parallel to 𐎠𐎢𐎡𐎢 "poppy" (= Assy. mamitu "ban"?). Frank's suggestion (ZA XXIV, 171), AŠ.MA.GA = ἀσκαδοκκου, the "African" for pastinaca is untenable (Diosc. III, 73). "ARAT PA.PA

"Juice of PA.PA" suggests an origin for Papaver. "ĀBA ŠIR'ANI "Enemy of the Muscles" may refer to an overdose of opium (see § 9 Q, l. 151). "HANZIBATU I cannot explain, but ~~emendation~~ emendation to "hanzilatu ~~emendation~~ to make it *hizian*, is unnecessary.

In § 5 "ADUMATU, prob. "the red-brown drug", may be the little red-brown sticks of opium. This is "the Drug

① See § 7. Lāla is Indian vernacular for *P. Rhoeas* (IMP I, 76). ② Herzfeld saw *Glaucium grandiflorum* at Kallah Sherghat (Oz, Beih. II, 33: 34, 30). ③ Magh. V, 37 puns on this with *lirumši*: "like "HUB.GIL ŠAR may her sorcery curse her." In Num. V, 11 ff (the ordeal for adultery) the waters which the woman must drink are called

𐎠𐎢𐎡𐎢 𐎠𐎢𐎡𐎢 𐎠𐎢𐎡𐎢 𐎠𐎢𐎡𐎢 Is there any connection?

kanāšû in the Persian Gulf," which in U.S. 57 is "the drug-kanāšû (is) like the Mandrake: its juice children and women gather." ① The Assyrian botanist knew the narcotic properties of both poppy and mandragora (§ 51), and perhaps in this "gathering" he saw a derivation (𐎠𐎺𐎠 "gathered") for kanāšû. GAN.ZI.ŠAR also = ka-na-šu-u (CT XI, 46, III-IV, 34), a section in which kunšu ša šarti occurs (ll. 31, 32). In this last, since 𐎠𐎺𐎠 = "sweep," we must probably see "hair-brush" ^{or wood-catchings} and hence "kanāšû would be then "the brushed (scraped) drug." Curiously similar to § 9 J is VK.547: "Early in the morning old women, boys and girls collect the juice by scraping it off the wounds [in the poppies] with a small iron scoope, and deposit the whole in an earthen pot." Nothing seems to have changed in the collecting of opium.

GAN.ZI appears in the word GAN.ZI.TAR.NU (§ 9, AT, L. 561), Cannabis, hemp, wherein it is possible to see Skr gāna "hemp" but unsafe. Yet Sprengel (Diosc. Vol II, 601) quotes Bochart as seeing 𐎠𐎺𐎠 in the Phoen. gīngan of Apuleius. Cf. ka-na-šu-ut-tum ŠAR (MB 61).

§ 9, K, "GAN.ZI-u (i.e., kanāšû) = sarmadu, perhaps ~~𐎠𐎺𐎠~~ "flower" (general for particular, like 𐎠𐎺𐎠 "rose" for any flower), and so "poppy"? GAMUL KANAŠĪ perhaps 𐎠𐎺𐎠 "sweepings" (i.e., of the opium, the scrapings of the poppy). "GUR.uš, the male GUR-drug = "poppy-juice", "GUR being šakiru(?), CT. XI, 46 -I-IV, 11, i.e., intoxicant: karpot GUR = šakiru (CT. XII, 23, 93064, 5). iGUR.uš = ki-šit [tum], ku-ši-... (II R, 46, 71-73, e), the latter perhaps being ku-ši-bi ŠAR of MB 51. ② "GUR

① "Are the gatherers" (kaziri for kaširi, cf akzur for aksur, kuzuru for kiššura, HWB 590, 591). Del. (ib. 124) is certainly wrong: "seine kleine weiblichen blüthe".

② If kušibi ŠAR be a word for poppy, are we to see in the same group (L. 55) ḥassuḥaltum = 𐎠𐎺𐎠 "poppy"?

44. § 10, G, U. 60-73 : 10, I, U. 80-95.

occurs both simply and with UŠ "male" in AM (= "ha-ra-zi UŠ ??, see °L. 41, Rm. II, 203, r. II, quoted further). Add here M. 13, VI, 49 : 'HAB(?) ŠAG. QUR. UŠ = KUR-ŠI-IS-... L. 95, "kasû" "rose" as "poppy", again the Ar. use of كاس . Elsewhere are other equivalents, e.g., Langdon, RA, 1916, 33, 6-8:—

| | | |
|-----------------------|-----------------|------------------|
| UŠAG(ŠA.LAM.BI)ŠAR | šad-da-ru | el-meš-tum |
| " " " GU.LA | ime-ik ka ru-ru | di-šar-ru: di-šu |
| " " TUR.RA(V.TUR.BA)① | a-ra-ru-u | aš-šul-tum |

UŠAG.ŠAR, "head-plant", on the analogy of "heart-plant," *hyoscyamus* (§ 10 AV, L. 379), must be some intoxicating drug. Since 'ararû = opium, or opium poppy, UŠAG.TUR.RA(ŠA.LAM.BI.TUR.RA) "lesser headplant" must also be a word for opium, and UŠAG.ŠAR will therefore be a more powerful narcotic. Aššultum, also occurring with ararû as equivalent of ŠA.LAM.BI.TUR.BA (§ 9 BH, U. 446, 447) may well be allied to šultu, "šulutu (= "šilammu) U. 448, 449, perhaps \rightarrow "be quiet", i.e., a narcotic, "šilammu representing the mod. Ar. شالو "be dizzy", again an intoxicant.

What, then, must UŠAG.ŠAR, the "greater narcotic" be? Šaddaru, its equivalent, must be allied to شاد "be confused", i.e., an intoxicant: elmeštum is a precious stone (like the fruit? cf. § 9 BC, 3, fruit of *Kollia* like tarmanu). Surely it must be the very poisonous and deadly *Atropa belladonna*, L., with its round berries like jewels. The plant is found on the Giour Dagh, Amanus (Post, 569).

UŠAG.GU.LA, imik karuru (akin to karuru, 595 "go round", i.e. "be dizzy?": dišarru, well-known as كاس *Aegilops* (Löw, 128); and dišu "grass" (cf. كاس , grass, *binj*, which latter is azallû, § 10, AT, L. 358: for dišu cf. § 9A, L. 2). (Is imik karuru the correct reading for ni-ka-ru-ru, § 10, AB: PL. 30. 15: PL. 39, K 8287, A, 1?).

① Cf. PL. 33, K. 14046: CT. XI, 45, I, 17f: VR, 29, 27-29.

Add here §9BH, l. 445 ①: "lipî erišti (= aš-sultu). It means "fat of perfume" (24, 1, 6) without det.): lipî erišti ša rubus kitt[um] "fat of perfume of excrement of kittum" (see §10AG, on PL 30, 10)

For ŠA. LAM. BI cf. Rm ii, 203, r7-13, PL 46, (and see also p. 276 on this)

"a-ra-ri-a-nu
 "ša-mu mat-ku
 "a-ra-ri-a-nu
 "ŠA. LAM. BI
 "ha-ra-zi-uš
 "hi-ib-ri in-bi
 "ta-ra-ta-ra

"a-[ra-an-tu ?]
 " ["]
 "MU[š] ②
 "ni- ③

For "ararianu see p. 276.

Šamu matku "sweet drug" ④ (opposed to šamu marru, CT xxxvii, 33 "the bitter drug", opium). For "harazius cf. PL 39, K. 8287, iii, 14, and CT xxxvii, 30, ll. 42-43 (p. 273) : for "hibri inbi, K. 8287, iii, 6, where it = "handab[ti], vulgo LAM. . .", and l. 8 "handabtu = "ri- . . .

We can now return to the lost plant of §96. Obviously from its position in this column (among plants beginning HUL) it should begin with HUL too, and even if l. 72 did not suggest it, the natural restoration here would be the common "HUL.GIL. But "HUL.GIL.ŠAR must have a Semitic equivalent from arari (Meissner rightly, SA 18373: '04, 3, 26); Maqlû V, 37 (kima "HUL.GIL.ŠAR

① Cf. Meek, RA 1920, p. 138, K 4199 (4) [lipî] erišti (5) lipî rišti (6) lipî u-šū-ul-ti (7) lipî a-bi-ik-ti ② Cf. PL, 27, 82-5-22, l. 5 "MUŠ.ŠA.TUR ③ Hardly ni[karuru]. ④ AM 48, 2, 5

46. § 10 G, ll. 60-73: 10I, ll. 80-95, etc.
lituruši kišpuša) is definite. "HUL.GIL must there-
fore be the missing plant.

Now, as we are dealing with the root arāru, we must
restore -ru-u as ir-ru-u. Haupt (ZA xxx 60) in-
geniously on slender evidence made irru "opium" (cf.
Kü. p. 105), and, in spite of weak premises, he was right
as our araru here shows. It is thus clear, since a-
araru = "poppy" that "HUL.GIL = irru = poppy (opium), and
the old translation "stink-cucumber" (Lutz, AJSL, 1919, 74)
is untenable. HUL, of cucumber shape, must here refer to
the capsule. § 9G gives "red(?) drug": "lion fat"
"fat of a lion which has died fighting copulating"; "fat of a
black dog which has died fighting"; "fat of HUL.GIL"
"fat of man". These, I suggest, are professional (or col-
loquial) names for the strong, milky juice. In Šul
it is called "bulalu, i.e., $\sqrt{\text{בבב}}$, בבב "confuse" mental
This word bulalu is also used of "ankinute (= Oenanthe?, § 10
AH, 3). It can hardly be בבב "milk" or בבב "fodder", im-
possible with poppies. Cf. AM 16, 3, 9.

These are the various uses of poppy and opium:

- (1) "HUL.GIL: (a) Simply (9): EXT., eyes (var. ŠIM.GIL 17, 4, 9), feet (74,
1, iii, 18), anus (57, 5, r. 7: 94, 2, ii 7): bind (asida, 75, 1, iv, 18): uncertain:
("sickness on his body" 44, 1, i, 18): (probably drink) for constriction
of KU.GIG (40, 5, 17): INT., drink with *galbanum and mus-
tard in oil (and purge, Kü iii, iii, 2). Cf. "HUL.GIL ša IM.SI.DI on
anus (KAR 201 (2), 40). (b) JUICE (4): EXT., ease šiggati (blains?
32, 5, 5, 7): bind (73, 1, 22): prob. ext. for šiggati (93, 2, 9):
INT. (PA "ir-ri-e) drink and apply anus (stomachic,
Kü ii, i, 12). (c) FRUIT (4): EXT(?) eyes (8, 1, 7:
13, 6, 20): INT.(?) stomach (48, 1, 8, 11).

- (d) SEED(3) urinary, dyspnoea (59, 1, 18) : hair (4, 1, 26). INT., drink (stomach, Kü I, II, 29 : II, III, 18 : with seed of šumû (ib. I, II, 32)).
- (e) ŠE.RÛ (1) : for flesh (69, 1, 13) : [drink], stomachic (Kü. III, 1, 36)
- (f) "STONE" (i.e., hard opium) (4) : EXT., bind (15, 3, 5) : Cf. 16, 3, 9.
- (g) KU (powder) (1). EXT., bind (74, 1, 13).
- (h) Lipû (fat), i.e., milky juice (5) : EXT., bind (73, 1, 22) : apply anus (40, 5, 10) : [Kü II, I, 22 : III, II, 12, 26].
- (i) ŠARURU (the capsule), Kü II, II, 15, Š. ša "HUL.GIL ušesû drink (2). "IR-RI-E (1) for mišitti ammîti (79, 1, 17)
- (3). "GÛR (14) Simply (8), when Kt mišitti (76, 3, 3), sasakki (19, 1, 4) INT., drink (48, 2, 7 : 87, 5, 12 ?). SEED (3) EXT., feet (74, 1, iii, 9) : anoint (54, 1, 7). LEAF (1) for tooth or mouth (47, 4, 5). JUICE (1) (40, 5, 4).
- (4) "GÛR.US (2) simply, for KA.DIB.BI.DA (78, 1, 29) : for decayed teeth (alone, Meek, RA 1920, 181, s. 1701, dup. of PL. 10). SEED (1) anoint Temple (104, 1, 21). ROOT (?), eyes (14, 5, 9).
- (5) ["ARARÛ, anoint alone to remove bruise, KAR 203, 55] ①

For the use of opium cf. Diosc. IV, LXV, ff.

Culpeper (256) prescribes heads for sleep, colds : black seed in wine for diarrhoea and menses. Also hollow teeth

O

§ 10 L, ll. 97-111 "URNÛ (37), *Mentha, *MINT, less probably ammi : "NANIHU, *Mentha : HAMUK ŠAR, Ocimum basilicum, L., BASIL : "KURNÛ *Origanum.

"URNÛ (a) Simply, passim, EXT., bind (15, 3, 17 : 98, 3, 11) : for swellings (73, 1, 7? : 74, 1, 13) : apply feet (74, 1, iii, 3) : ears (on wool, 37, 2, 7, 14), eyes (9, 1, 40) : nose (26, 1, 4 : 26, 2, 3) : foul breath (26, 6, 8), cleanse mouth (78, 1, 13, 33), for illatu (31, 4, 12, 22), mouth (28, 7, 12), for haemorrhoids (58, 2, 2, 9, KU.G 19). ENEMA (43, 6, 5 : 56, 1, 5 : Kü iii, ii, 21). INT. (83, 1 v. 13) : drink (60, 1, 7 : 87, 5, 13? : 89, 1, 7 : 90, 1 v. 16, 20), for hand of ghost (76, 1, 9, 13)

① Since the publication of Smith, CT xxxvii, "ararianu (1) (drink, 55, 1, 13 "ariani : Kü iii, i, 33 stomach : iii, ii, 67) : ¼ shekel (var. mir-girani, Kü ii, iii, 10, stomachic) and "matku (?) (1) (drink, stomachic, 40, 2, 5) have been properly assigned to "tarmuš (pp 45, 276)

18, 21). Uncertain (17, 5, 4, umṣati), (40, 1, 47, stomach). Quantities, 2 shekels (90, 1 r. 8), 10 shekels (42, 2 r 6) (87, 3 r 6). 15 shekels (Kü II, 1, 21). (c) SEED (1) EXT. eye(?) (75, 1, IV, 6).

(E) WATER (1) drinks, stomach (76, 1, 16). (d) JUICE (2) EXT. 34, 1, r. 7: 83, 1 r. 22).

It occurs MBG (ur-ni-e šAR) with nanahu šAR, hamuk šAR and kurnê šAR. In § 9 L it is found with [u]nanihu, [u]kurnû, [u]hurnû, and [u]kanû... Pl. 32, Rm. 364, 5-11 is similar (see M'04, 12)

| | |
|-----------------------|---------------|
| [u]ur-nu-u sâmu | [u]ur-nu-u |
| [u] " arku | [u] " |
| [u] " nâti | [u] " |
| [u]na-ni-hu | [u] " |
| [u]k]u-un-di | [u]kur [na-u] |
| [u]kur-n]u-u sâmu | [u] |
| [u]kur-n]u-u ta-be-li | [u] |

§ 6, L. 3 puts [u]urnû sâmu between opium and nigella. The problem is to distinguish between nanahu (nanihu) and ninû (§ 10 Y), the latter occurring nearly twice as many times as [u]urnû. The first may be ~~qizil~~ said to be Ammi, or it may be ~~qizil~~ mentha (Löw, 259); the latter may be ~~qizil~~ Ammi, or it may be ~~qizil~~ mentha (u qizil). Which are we to accept?

Meissner, rightly I think, takes ninû as Ammi, and therefore nanahu will be Mint. But it is by no means certain. Yet kurnû would then be referable to ~~qizil~~ "near other names for Origanum" (Löw, 229), which goes far to settle the urnû group. There are 2 kinds of urnû, "red", "green" (yellow), and "riverain". It is a "drug for the hair." There are 2 kinds of hurnû, "red", and "of the dry land".

It is not easy to identify them exactly. Mentha viridis, L., the garden mint, has flowers of a pale rose: M. aquatica, L., must be the "urnû of the rivers".

① Ammi is an aromatic umbellifer called "Bishop-weed, from Candia or Alexandria (Bradley, Fam. Dict., quoted Murray, Dict., I, 283). Ammi Copticum, L., and A. majus, L., are found in Mesop. (BFO II, 391). Cf. Pliny, NH XX, 58.

② Kur-ni-e, MB 12, was misread si-ni-e by Meissner.

Is the green urnû *M. piperita*, L. also cultivated in gardens?

"KURNÛ TABALI may be $\kappa\alpha\lambda\alpha\mu\epsilon\lambda\epsilon\theta\eta$, $\kappa\alpha\lambda\alpha\mu\epsilon\lambda\epsilon\theta\eta$, calaminth, or $\gamma\lambda\acute{\eta}\chi\omega\nu$, *M. pulegium* (Lew 329), the Kurnîtha of the mountains. "Red Kurnû" must be *Origanum vulgare*, L., marjoram with red flowers.

"URNÛ, as a drug for the hair, apparently takes the place of *Origanum* or the Rosemary.

HAMUK ŠAR, unknown outside MB, I take to be $\epsilon\omicron\delta\omega$ *Ocimum basilicum*, L., Basil (Ar. "haebak", Forsk. EF. exiv). I heard بازيل for Basil in Basrah, and was told that the Jews, but not the Moslems, ate the leaves.

"KUNDI may be $\kappa\upsilon\eta\omega\delta$ (Breck. 327), *planta quaedam*.

"HURNÛ, a reed-like plant (L. III), uncertain.

Origanum vulgare, Lebanon, Sinai (Post, 617): used in India for colic, diarrhoea, hysteria, menses, teeth, rheumatism, hair: oil, earache: infusion, EXT., fomentation (IMP. II, 1027). The use of "urnû" is certainly very close to this. *O. Maru*, L. (perhaps "hyssop" of O.T., Post, 617) is common in Palestine, the aromatic powder from the leaves, etc, is used as a condiment. $\kappa\omicron\tau\iota\varsigma$, the old Syr., reappears in the Ar.-Indian vernacular, murwo for *O. marjorana*, L. (IMP. II 1026). Is this "urnû" by a metathesis? Pliny (NH XX, 52) prescribes *M. sativa*, L., for 41 diseases, etc. *M. silvestris*, L., for rupture, convulsions, gripings: locally, lumbago, gout: juice, ears, and sores: to wash head. P. 769, menthol, antiseptic, carminative, local anaesthetic: EXT., headache, toothache, rheumatism, etc.

§ 10, M, U. 112-115. "KAMUNU (G) CUMMIN, *Cuminum Cyminum*, L.
"ZIBÛ (24) *Nigella*.

"KAMUNU ("TIN.TIR. ŠAR, CT. XI, 45, 3a: "TIN.TIR. UD. ŠAR
"White TINTIR" as distinct from "black", "Zibû, PL. 41, 3):
(a) Simply (5) EXT, feet (75, I, 18), anoint, insects (KAR 203, IV, 20).
(b) Seed (1), bind eyes (75, I, IV, 8). "Kamun šadî (drink alone, liver, Scheil. RA, 1916, 38, 21). Long ident. with $\kappa\iota\mu\iota\sigma$, *Cuminum Cuminum*, L. (Kü. 83).

50 88 10, M., U. 112-118; N., U. 116-119.

In SM. frequent EXT. (insects, 69). Stimulating, carminative. (BMP No 134). Sanscrit authors recommend it for scorpion-stings (IMP I, 634)

“ZIBU” (“TIN.TIR.MI.ŠAR “black TIN.TIR.” PL. 41,4). Simply always: EXT, ears (36, 1, 13, 14, 15): mouth (26, 6, 12): mouth, or tooth (36, 2, 3): eyes (8, 5, 4: 17, 4, 4: 19, 6, 15(2)): prob. hair (4, 1, 26): anoint (52, 3, 10: 52, 5, 13: KAH 203, 48). INT., drink (16, 4, 4: 36, 2, 13: 60, 1, 8: 64, 1, 35), stomach (Kū II, II, 17, 27). Fumigate (99, 3, 17) with 10 shekels. It is the “BLACK CUMMIN”, i.e., Nigella (rightly Kū 85). N. sativa, L., “Fennel Flower”, “Fitches”, has black acid seeds used in medicine (FTP 13). M. arvensis, L., at Aintab, and in N. Assyria (BFO, I, 67).

“ZIBIBANU, U. 81, 84; is this ~~... or ...~~ = ~~...~~ (Löw, 566). [LU]. ūš ša ki ma HI.ŠAR, 88, 89: “*beans like HI.ŠAR” is, however against this.

Kamunu of 86, L. 13 is distinct from kamun i-ni (l. 15). In Harper, Letters, No. 367, 8 a writer says that kamunu has appeared in the court of Ê-Ani of the Temple of Nabû, and katarru on a wall. Cf Gwynn, PSBA 1914, 248, 93 “if in the house of a man in a pot of tâtati (vinegar) kamunu appears.” Obviously it is a kind of lichen. Cf AM 85, I, VI, 11 ka-mun i-ni...



10, N., U. 116-119. “HA (30), “ŠIMRU (1), “ŠAMRA(N)NU (17), “PI.PI (3), Forniculum officinale, All., FENNEL.

I. “HA (a) Simply (15) EXT. wash (head, 6, 5, 5: 49, 1, ii 8): bind (79, 1, 24): on neck (28, 7, 5): apply “HA... eyes (13, 4, 2). Fumigate ears (33, 1, 35). INT., drink (stomach) (48, 4, r. 10). Uncertain (guraštu 17, 1, iii 1) (finišli, 89, 4, 8) Quantity (? 3 ŠE, 13, 4, 2). (b) SEED (5), EXT. wash (head, 4, 2, 3): for head (64, 1, 19). Fumigate (?) (99, 3, r. 10). (c) ROOT (5) EXT., anoint (for ghost, 93, 1, 5: 97, 4, 12). Fumigate (91, 1, 8). INT. (dyspnea, 59, 1, 38). Cf iii “HA, drink (urinary, 66, 7, 14).

2, “ŠIMRU (1) (“šim-ri, 85, 1, 9, not easily intelligible).

3 (u) ŠAMRA(N)NU (a) Simply (1) EXT., bind (52, 5, 15: 48 - -)

apply feet 69, 2, 8): eye (?) (75, 1, iv 10): INT. (89, 1, 7). (y) SEED (2), EXT.

©I owe this reference to a former pupil, Mr. McKnight, at Chicago.

feet (79, iii, 2). INT; drink (hand of ghost, 76, i, 25). (c)

Juice (3) EXT. (83, i, r. 26), apply feet (74, i, iii 12).

(4). "Pl. Pl (a) simply (-), for an apparently drowned man (87, 6, 5): described as a drug šA. šA. HI (KAR 203, vii 33). (b) Juice (1) (5, 5, 13).

It is regarded as an aromatic (ⁱš_{HA} = šamrû, M. 13, 2, 17). Langdon rightly^① compared ^šš₇₆ vi Anethum Foeniculum, L. (Löw 382) "fennel", (from ^{TT}š₇₆ "made to flow", from the tear-like drops, cf. Pliny NH xv, 95)^② This plant is common in the Mediterranean region (BMP No 123). The problem is to distinguish between šimru, šamru, and šamranu. šimru and šamranu are probably the same, or nearly, since ^{HA}HA is equiv. to both. Note, however, that the juice of šamranu only is quoted, as against the root of ^{HA}HA only, but cf. § 9N, ll. 125, 126, which quote "root of šamranu." If, however, we must find some other umbellifer similar to fennel (in order to maintain a distinction) there are anise, dill, and caraway (cf. BMP. no. 123). But as dill is already šibittu šAR (š₇₆ š₇₆, MB 18, Meissner ZA VI, 293) and caraway scarce in Asia Minor (BMP No 121), the choice would fall on anise, Pimpinella anisum, L., (in Theophrastus, FH 276). But really the only reason for doubting that šimru = šamranu is that the writers in Ar. should have troubled to write "šam-ra-a-nu out in full. šimranu (l. 89 "like šimru") is prob. the -anu product of šimru.

Is "parê (as "šimru of the mountains") Pliny's wild variety of fennel, "hippomarathon, perhaps F. piperitum, D.C. (Post, 356). Perhaps it is "Pl. Pl-nu ša šadî (see further?). Pliny (NH xv, 95) says that fennel-juice is applied as ointment, the seed used for fevers, etc., and in wine for stings: the juice for worms in ears: the root for convulsions, etc. Cf. Diosc. II, 74.

① PBE XXXI 72. ② Not "bristle up" ^šš₇₆ vi (Haupt, JHC, 103, 89).

P. 540 "stimulant, aromatic, carminative," similar to anise; antispasmodic in intestinal colic of children.

"PI.PI is interesting but difficult. It occurs in compounds: "PI.PI.-nu ša šadī (§ 9 BB, L. 410), "PI.PI.NU.NU (§§ 9 AG, L. 257: 9 AV, L. 381), "PI.PI.PI.TAK (ib., L. 382), "PI.PI.ŠA.LA, "UR(ÜR).PI.PI, and "AŠ.PI.PI.

Simple "PI.PI = šimru "fennel" (§ 9 N, U. 116, 117), karaktu * "opopanax" (§ 17, K. 4169, 14). ("ZAL.LU e-riš-ti, i.e. "fat of smell", i.e. of some kind, = "PI...., PL. 41, K. 8829, 7, as well as aššultu "opium", L. 3, see § 6: are we to restore "PI.PI?). "PI.PI = "a drug for ašī" (pain, PL. 29, K. 4560, 23) ①

Fennel and the opopanax-plant are umbellifers with a strong disagreeable smell (VK, 291, 585): opium and poppy are equally disagreeable (which perhaps explains "ZAL.LU e-riš-ti). The use of "PI.PI in AM to revive the drowned indicates a drug with a strong and pungent smell. In other words "PI.PI = "the drug with the pungent smell", PI.PI here being connected with PI = uzru "intelligence, brain". Hence in Akkad it is "ša-mi ha-hi P^l (i.e., ~~šamru~~ suspirium).

With this idea (recalling the φU of Diosc.) we can discuss its compounds. "PI.PI-nu ša šadī may be šamranu ša šadī (i.e., "parē, above, a fennel). "PI.PI.NU.NU and "PI.PI.PI.TAK are henbane (§ 9 AV), also a plant with a strong disagreeable smell. "PI.PI.ŠA.LA (uteri odor?) = arantu, which has qualities similar to the fennel and the Lardu (nard) (§ 10, C). "UR.PI.PI (γ) =

① Meissner (SAI 8963) has slipped in giving urnu(?) as an equivalent for "PI.PI of PL. 19, 5a. My copy gives šimru plainly.

u-[zu]-un lalâ = uznanâtum^① = uznanu = šepa eriš-
ti, i.e., all perhaps indicating the -anu product
of "PI.PI, as a pungent-smelling plant (the last epi-
thet = "feet-small" or "perfume for feet"). (a)
Simply, (4) tied on neck for venous disease
(PL. 23, K. 9283, 18): used for eyes (8, 7, 2): drink (75, 1,
IV, 13): (b) SEED, (i) bind on feet (70, 1, iii 9): (c) JUICE
(i) for swelling (74, 1, 19): (d) ROOT, feet (70, 1, iii 4).

"Aš.PI.PI, probably the (foetid) *Cynoglossum of-
ficinale*, discussed in § 10, W.

"PI.PI is thus presumably a strong-smelling drug,
having effect on the brain, twice used for um-
bellifers, and used in compounds. That it may
at times be distinct from šimru is shown
perhaps by AM 3, 5, 5, where "PI.PI in one pres-
cription is paralleled by "NA in another,
not dissimilar, following closely.

○

§ 10, N, 2. "EL(31) } CRATAEGUS AZAROLUS, L.(?)
tak, u, "ARZALLU } or other species of Hawthorn(?)

There is a doubt about the equivalence
"EL = "arzallu, a comparison suggested by Meiss-
ner (SAI 8547) from Pl. 15, 25 (tak EL = ar-zal-lu).
"EL and ..anzal-la occur in the same pres-
cription, 59, 1, 37 and 39, while in L. 33 (another
prescription) "ar-zal-lum is spelt out. It
is, however, possible that ..ar-zal-la should
be restored [tak]arzalla, the stone as distinct
from "EL, the plant, here, or that there is an
accidental duplication (cf. KA.A.AB.BA in the
same prescription as KA tam-tim, 98, 3, 9 and 10).
The identification is very attractive.

① See also § 9 CL, note.

Use in AM. (a) Simply, "EL (19), EXT., apply neck (14, 8, 5), temples (14, 2, 6): anoint swelling (with cannabis, 73, 1, ii 8): for eyes (75, i iv 10). INT., 48, 2, 5: 48, 4, r. 10: 59, 1, 37: 87, 8, ii 1?/: 89, 1, 2). Uncertain use, venereal (?), 32, 1, 12. "AT-zal-lu (3) EXT., anoint (93, 2, ii, 10 (?)), temples (97, 4, 23). INT., drink (53, 1, 33: 76, 1, 26). (b) tak ar-zal-lum. (la) (3): for mišitti (77, 5, 16). (c) Leaf of "EL (5, 2, 2, with *bellis for head): alone, stomach, drink (Kü ii, ii, 19): chew green "šb alone (ib., i, ii, 8). (Cf. "ella, Index). (d) seed of "EL (5; EXT., feet (74, 1, 36 and iii, 8): eye (?) (75, i iv 5, 6): bind (49, 2 r. 5). INT., drink (after drinking beer, etc., Kü ii, iii, 49). (e) Juice of "EL (2?) [tooth, 22, 1, 8?]: mouth (24, 5, 3).

š.š.ū.EL.KUR.RA "mountain "EL-tree" occurs in Guāca A, VIII, 10 (ISA 145) with LI (= būrašu), as one of the woods for burning ceremonially. It is not, as far as I know, used in building.

We may see in it a "white" plant (EL = ellu) sometimes growing in mountains, useless for building, pleasant to burn, arzallu with a stone, "EL with leaf, seed, and juice, all used in AM both EXT., and INT., so that it is probably non-poisonous. The nearest Semitic equiv. which I can suggest is 𐤀𐤍𐤏𐤍 Crataegus Azarolus, L. This seems to reappear in the AT. 𐤀𐤍𐤏𐤍 which has the value of both Hawthorn and medlar. But this latter is so obviously similar in sound to šalluru that I have identified the latter with it as the medlar (938): but 𐤀𐤍𐤏𐤍 cannot be so identified. Are we to consider 𐤀𐤍𐤏𐤍 as a kind of doublet from arzallu and šalluru, owing to a confusion? The 𐤀𐤍𐤏𐤍 is described as the fruit of a

* Nearly still is NH 𐤀𐤍𐤏𐤍 = hammock (?)

§§ 10, N, 2; N, 3; N, 4: N, 5: 10, 0. 55.

well-known tree, of two species, red and yellow, with a round hard stone, resembling the نبق, now applied to the medlar (Lane, s.v.). BFO ii, 662 gives sarrour, Crataegus sinica, Boiss., or C. Azarolus, L., in Mesop. (see Löw, 229). The 195j, which I saw in Mesop., was certainly not the medlar: it had fruit about the size of cherries which ripened in winter and were edible. C. Azarolus grows in the hills in E. Anatolia, Mt. Argaeus, Mesop., Orfa, and Diarbekr (BFO, ii 662).

If arzallu = 195j, the infixed ε is paralleled by azupiranu = 195j. A comparison with 1973j hozek-nut is far less likely. The flowers of the hawthorn are sweet and used in infusions (GM 166).

§ 10, N, 3 "DADARU.

Perhaps connected with da(d)daru "stench" (MA 242). Cf "PI.PI, § 10, N. = OT. dārdār (Baster).

§ 10, N, 4. "LAPAT ARMANNI (2)

Fumigate (99, 3, 11). See Laptu, Index.

§ 10, N, 5. "GI.GIL ARKU

Since the Anemone (one of the Ranunculaceae) is given in the next section, § 10, P, ^{but one} it may be reasonable to see in this "yellow bloom" the Ranunculus "Buttercup". For possible species see § 10, D, 11e.

§ 10, 0 "MULU.GIŠĜAL.LU (1)

= "A-ku(?) - si(?) "A bunch of "MULU.GIŠĜAL.LU" (104, 1, 32).

56 810P, U 122-135

“NUSABU (16), “ÂR KASPI (3), “ZIM KASPI (1),
“ÂR HURASI (1); “ILURU SÂMU (1), ANEMONE.

“NUSABU: simply, passim: INT., drink, prob. all these cases, kinikti (16, 1, 12: 60, 1, 6, 7, 9, 13: 89, 4, 4, 11); dyspnoea (59, 1, 33, 37); kinikti KU. GIG. (40, 5, 18). Locally, apply tooth (KA.DIB.BI. DA, 23, 2, 8, 9: 78, 1, 20, 21).

“ÂR KASPI, 34, 3, 11: Juice, (1) (Âr a-a-ar kaspi ša “nu-ša-tu MU.NI “juice of the Âr kaspi whereof the name is nu-ša-tu”) drink for dyspnoea (59, 1, 32).

[“]ZIM KASPI (1), drink (39, 9; 2).

“ÂR HURASI (1) (87, 5, 10, VR 17, 2, 3 gives its equivalent as nu-ha-ri).

“ILURU SÂMU (1) for head (1, 2, 4): notice “el-lu-ra (with others) to be put in kurumu-beer and drunk by a woman, and nah-šatu ipparisa “the menstruation shall be stayed” (KAT 194, obv. 28, cf 30 also to be drunk alone for the same trouble). “EL-luru, anoint in oil (ib. 204, 20).

IDENTIFICATION. The clue lies in the three colours of its blooms, red, white, and dark (purple) and in the names “zim kaspi “silver sheen”, and “âr kaspi “silver-brilliance. It is the Anemone. “The flower which first strikes the eye in travelling through Palestine is the Anemone coronaria” (FTP 2). Cf this description of Anemones (PC II, 11) “White or purple, or scarlet, or even yellow blossoms... As the

species generally grow on open plains or in high exposed situations, their feathery grains produce a singular shining appearance when waved by the breeze". The *A. coronaria*, L., is a native of the Levant (VK. 573): I have often seen broad scarlet patches of anemones near Mosul. The Ar. is شقيق النعمان (the Ar. for *Ranunculus Asiaticus* being شقيق النعمان الخشت) Herz, II, 35, Kalah Shenghat.

The different Assyrian words mean SCARLET FLOWER (U. ¹³², 134, 142), WHITE FLOWER (133, 143), BLUE BLOOM (145, 146). "SILVER SHEEN" ^① (136? 137) and "SILVER ^② BRILLIANCE" (141, 147) refer to the "singular shining appearance", the "waving in the breeze", which must be seen in "ratuttu (U. 132, 133) and "artitu (L. 134, 135), for which cf. Syr. ^ⲉⲃⲟⲩⲓ and ^ⲉⲃⲟⲩⲓⲕ = "trembling". "Bit-... ^ⲉⲃⲟⲩⲓ may conceal a parallel to ^ⲉⲃⲟⲩⲓ (anemone). "Nusabu ^ⲉⲃⲟⲩⲓ "plant"? Pl. 35, K. 11424, contains many of these names.

P. 972 gives *Anemone Pulsatilla*, L., for dysmenorrhoea, orchitis, epididymitis (as well as *A. pratensis*, L.). The French prescr. (16) gives "Bruised fresh flowers and leaves of *Pulsatilla*, 1: Alcohol (95 p.c.) by weight, 1". Cf. Fernie, HS, 22 ff. Gerarde (306) says the *Anemone* is used for eyes, ulcers, menses, etc. (cf. Diosc., II, ¹⁷⁶ c. vii). The extreme acrid properties (PC II, 11: GM 15) explain its use for toothache in AM.



① A-a-ar, hardly aru "juice" but probably ^ⲉⲃⲟⲩⲓ
^ⲉⲃⲟⲩⲓ, ② Zimu, the same as Ziv, the month corresponding to Iyyar

58. § 10, Q, U. 148-162

§ 10, Q, U. 148-162. "ELLIPU(ELLIBU)(O), "ERIMU(O),
"MASMAS(O).

Very difficult. "GILGIL, thrice (U. 153-155) points to it being a plant with a distinctive flower. L. 158 amplifies this with "GREEN(YELLOW) FLOWER" L. 152 "FLOWER OF THE WOOD"; and L. 156 "FLOWER OF THE WOOD WHEREOF THE FRUIT IS RED." "Aialab akalit^l, L. 148, "ENEMY OF FOOD, (BREAD) (also L. 158) appears to suggest an emetic or poison: "aiba SA (= šu'ani) "ENEMY OF MUSCLE" (?), L. 161, may refer to cramp or paralysis caused by poison (cf its use in Popy, § I, note). What "šamu tarbû means I cannot say ("DRUG FOR INCREASE(?), SWELLING(?)"). "Ellipu appears to be distinct from "erimu (cf. U. 152, 156).

We have to find two plants closely allied, each with a prominent flower, growing in woods, probably with a green(yellow) flower in both cases, and one with a red "fruit" (poisonous or emetic): never in AM, although in KAH, No. 186 iii, 8, with narcotics. The following possibilities may be ignored: - (1) Such of the Solanaceae as have red berries, e.g., *S. Dulcamara*, L. (part of flower yellow), frequent in folk-medicine (FH 450. BHP No. 190: W. # 1, 179); *S. nigrum*, B, the "Red Nightshade", yellow anther in white corolla: *Physalis alkekengi*, L. (whitish flowers), diuretic, sometimes eaten (GM. 348, cf *halicacabum*, scarlet berries, Pliny NH, XXI, 105). They were probably all included in "Karan delibi, § 10, Q, U, and are too frequently employed in medicine to coincide.

(2) *Tamus communis*, L., Black Bayberry, small green flowers, scarlet berries: applied to bruises, emetic (WSP, 162; common in Palestine, Post 778: used for rheumatism, Sowerby, Engl. Botany, 171),

or *Bryonia dioica*, Jq., Bryony (yellow-green flowers, scarlet berries, root poisonous (HPP, ib. 83: *B. multiflora*, Boiss., and *B. Syriaca*, Boiss. are Near Eastern representatives, BFO II, 761: Post, 325). Omit, as the flowers are not distinctive enough.

(3) *Iris pseudacorus*, L., although a striking yellow flower, does not coincide satisfactorily in the berries, and, besides, it grows in water. *Iris foetidissima*, L., which grows in woody places and has red berries, is not in Post. Moreover, if it were a question of Irises, the section would hardly have omitted the common little desert Iris.

(4) The least unsatisfactory comparison appears to be the Assyrian equivalents of *Arum maculatum*, L., with its definite green spadix and red berries, poisonous, causing cramps. Not in BFO, V 39 for Syria or Mesop, or in Post: but other *Arums* occur, *A. Dioscoridis*, S. et Sm., Syria, common: *A. detrunctum*, G.A.M., Kurdistan, Palestine: *A. Palaestinum*, Boiss.: *A. orientale*, M.B., etc. (BFO V, 35 ff: Post, 817, ff). The Ar. is *lûf* (Post), = *ḥ.ḥ.*, *A. maculatum* or *A. Orientale* (Löw, 240), conceivably *ellipū* by metathesis of the middle consonant.

^u*maškadi* (l. 148) may be either a drug for healing ulcers: Culpeper (81) says, of *A. maculatum*, that the green leaves laid on any boil or plague-sore draw forth the poison. ①

① Unsatisfactory Semitic comparisons are: *علق* fruit of the *Acacia*, like the carob, with seeds of a tawny colour (Lane 2132); *علس* *Rhamnus nabeca*, in Arabia (Forsk. EF, CVI).

§ 10, Q 2. "KARAN ŠELIBI (48), Solanum, "FOX-GRAPE"

It is best to continue the Solanaceae here, since they were suggested for ellipu in the preceding section. "Karan šelibi has, unfortunately, hardly survived in the Plant-lists.

Its use in AM. (a) Simply, (26): EXT., anoint (7,4, 19: 97,4,22: cf. KAH 203, IV, 11): for eyes (12,6,4), feet, (69,2,8): anus (53,9,10): alone anoint as a drug for TU.MEŠ (KAH 203, IV, 51). INT., drink (alone, for eyes full of jaundice, Kü. III, IV, 23), for stomach-ache (ib. II, 1,2), for scorpion-sting (alone, PL. 23, K. 9283, 14), for hand of ghost (76,1,13,18), dyspnoea (59,1,31, alone: 37, one of about 40 drugs), for difficult labour (57,1,10,6) (alone, ib. 14): chew (83,1,13). Uncertain, ħinikti (60, 1,6): kablitu (60,1,24): stomach (39,1,2). Enema (94,2,6). Doubtless by catheter (when inside of penis hurts, etc., fill inside of penis, alone, 62,1,ii, 11)

(b) SEED (3): drink 3 ŠE (for neuralgia? 90,1,21): for dyspnoea (drink? 59,1,43). Bind (7,4,16).

(c) JUICE (4): anoint tongue (23,10,4): drink (48,3,2).

(d) WATER (1): apply eyes, (ii, 2, 28).

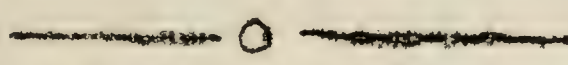
(e) LEAF (1): eyes (15,5,6).

(f) Uncertain part: drink (48,3,3: 58,2,5 (KU. 919): 66,7,11 (urinary).

The above show that "Karan šelibi was not considered too deadly to be prescribed internally, that it was an analgesic used alone (seed, juice, etc). It was long ago identified with ~~the~~ "fox-grape" (M, 13, 2, 32), which is well known. It appears to represent some of the Solanaceae:

(1) *S. Dulcamara*, L., still called 'Inab-es-Sâlib "fox-grape" in India, the dried fruit coming from Persia, used as diuretic, for syphilis, for rheumatism (IMP II 892). Common in Alpine regions of Palestine (Post 567: see FH 450: BMP. No 190:

WP 179). The dried young branches are "not official" P. 480. (2) *S. nigrum*, L. (equiv. of ~~𐤍𐤊𐤁~~ ^{𐤍𐤊𐤁}, Löw 296) used in India for fever, diarrhoea, eyes, etc. (IMP. 190). Called, with *S. villosum*, Lam., in âb ed-dîb "wolf-grape" (Von Opp., ii 381: both common in Palestine, Post 567). Cf. an unofficial analgesic from *S. nigrum*, *S. dulcamara*, and *S. tuberosum* (P. 480). (3) *Physalis Alkekengi*, L., also included (Löw 296), Kurd Dagh, etc. (Post 568). Doubtless *Withania somnifera*, L. (Jordan Valley, etc., Post 568) should not be forgotten. The fact that these three are possible under "Karan šolibi" precludes "šupalu" from this category. Why it should be "NAR, NAR, § 9K" is difficult to say.



§ 10Q3, see p. 265 ("Aš = edu). § 10R, see pp. 267, 160, 267. ("šupalu). § 10R, l. 168 ff. "šami uknâti

"šami uknâti looks like a dye: cf. (with HWB 58, which points out uknâtum as a dye) CT XVIII, 17, l. 421, 5:

| | | |
|-----|-------------|--------------|
| ... | uk-na-a-tum | in-zu-ri-... |
| | | ar-ga-ma-nu |
| | | » ar-ku |

Jensen (quotes Brock, 326) saw uknu in ~~𐤍𐤊𐤁~~ ^{𐤍𐤊𐤁} cyaneus; ~~𐤍𐤊𐤁~~ is its equivalent, with ~~𐤍𐤊𐤁~~ = *Satis tinctoria*, L. "Wood". For ["ra]padi cf. § 9AG, l. 273 "šamirapadi = "kasi siri. Cf. AM 8, 1, 23.



§ 10S, U. 171-173. § 13BURRATU (13), § 13ŠU, ŠAR (0) Que. "šibburratu in AM: EXT., anus (? 24, 206). INT, for foul breath (26, 6, 9): drink for dyspnoea (59, 1, 39). Quantity, 10 shekels (42, 2, 6: 57, 7 ii 7). It must be ~~𐤍𐤊𐤁~~ ^{𐤍𐤊𐤁} *Peganum harmala*, L., "guš" used for stomach, urinary trouble, shortness of breath, sores (Pliny, NH

62 §§ 10, 8, ll. 171-173 : T, 174 : U, ll. 175-185 : V, 186-197.

XX, 61) : Hippocrates (quoted VII 528) prescribes it as diuretic. Oil of rue is antispasmodic, stimulant, rubefacient, and used as enema for colic in children (P. 1029). In India the seeds of P. Harmala are used against retention of urine (IMP. I, 244) 'For additional notes see p. 270.

Biššu ŠAR rightly identified with 𐎠𐎢𐎡𐎠 "rue" by Meissner (ZA VI, 294). A form 𐎠𐎢𐎢𐎠 exists (Wynn PSBA 1914, 243).

§ 10 T, L. 174.

𐎠𐎢𐎢𐎠 KAMUNU

It is curious to find this solitary instance of 𐎠𐎢𐎢𐎠 here, but it is in this sequence in § 6, l. 41. See § 10 M.

§ 10 U, ll. 175-185.

𐎠𐎢𐎢𐎠 ANAMERU (1) RUE(?)

Seed used, cataplasma (15, 3, 5). Is it 𐎠𐎢𐎢𐎠 "rue"? Post (197, 199) makes the distinction between *Ruta Chalepensis*, L., Arab. Ar "sendeb, sadhāt, kharmall", and *Peganum harmala*, L. "ghalqat-ed-dib, kharjil, haremān, kharmall", which certainly lends colour to the possibility of a distinction between šiburratu and anameru. From p. 271 the latter would then be *Ruta graveolens*.

§ 10 V, ll. 186-197.

𐎠𐎢𐎢𐎠 HAR. HAR, 𐎠𐎢𐎢𐎠 HALDAPPĀNU (together 96), 𐎠𐎢𐎢𐎠 HALLULĀIA (1) Sinapis, MUSTARD.

(A) In AM always simply: 𐎠𐎢𐎢𐎠 HAR. HAR passim, 𐎠𐎢𐎢𐎠 HAR. HAR (91, 4, 8): 𐎠𐎢𐎢𐎠 hal-dap-pa-(a)-na (5). EXT., eyes (19, 6, 8 : 96, 1, 12) : swelling (73, 1, 19) : cough (50, 3, 3) : feet (69, 2, 8) : ears (on wool, 33, 1, 24) : alone (75, 1, 30) : bind (27, 6, 4 : 52, 3, 18) : anoint (88, 2, 10 ; KAR, 203, 54). INT., drink (60, 1, 7 ; 83, 1, 18) : 85, 1, 3 : 87, 3, 13 : 89, 1, 6 : 93, 2, 12 : 97, 6, 3) : ears singing (35, 1, 8 : 37, 2, 7) : hand of ghost (76, 1, 12, 18, 20, 24, 27), stomach (42, 5, 5, 6 : 76, 1, 16) jaundice (alone, Kü III, III, 22). Very noticeable is Kü I, III, 1-2 "when a man's inside eats him", it is to be drunk in beer with salt, or alone in beer or water (i.e. an emetic). Eat, (39, 1, 9 : 83, 1, 14). Enema

(43, 6, 5). Used (saliva, 31, 4, 17); mouth-wash (23, 2, 7: 54, 1, 7. 5: 78, 1, 12, 15, 19, 23). Urinary (66, 7, 16), dyspnoea (59, 1, 35), haemorrhoids (KU. G 19, 52, 2, 9). It can be paṣâti "pounded" (43, 1 II 2). Quantities, 2 shekels (41, 1, IV, 3), 1 shekel (85, 1, 5), 2 Gur (12, 10, 3). (b) [ROOT, for toothache, CT. XIV, 23, K 253, 13: KAR 202, 17: and ŠĀ.MI (PL. 48, Rm. 328, IV, 11)]. (c) 7 KU (seven [measures?] of powder) bind, lungs (49, 6, 7. 2). (d) "HALLULAI A (1)" (21, 7, 6): toothache, PL. 33, K. 259) ①

Important is its inclusion in the four plants used for staining hands (doubtless like the modern Arabs, yellow, two of the others being saffron and turmeric, PL. 48, Rm. 328, VI, 3).

Identification: a common yellow drug, sometimes powdered, drunk alone in water as an emetic, used as plaister for chest complaints, and for feet: with action on saliva, and the root used for toothache.

Obviously, Mustard, probably *Sinapis arvensis*, L. (y, S. Mesopotamica, BFO I, 395) ② I have constantly seen mustard growing in the cornfields round Mosul.

Used for Ḥarḥar of eyes (Diosc. II, 183): root for toothache (Cuiper, 221): mustard chewed relieves toothache, (Gérarde). Stimulant, sialagogue; EXT., rubefacient in bronchitis: emetic in water (P. 1079). Seeds of *Brassica nigra* swallowed whole act as laxative (IMP, I, 93). In India mustard is used in apoplexy, convulsions, poultice to feet, insanity, dropsy, cholera, coughs, and toothache (WBM I § 263).

"HAR, HAR: cf. Br. 8587, HAR. HAR = tēnu "grind", doubtless with reference to mustard powder: cf. even Forsk. EF 119, Ḥarḥar = *Sinapis harra*. "Ḥasisānu, uncommon, doubtless Ḥasāsu, from its power of making itself felt; possibly as the -anu product of ① 89 K. L. 96, "HAR. HAR = "karn šelibi, probably a mistake: cf. the prescriptions here with § 10 Q 2. ② Post (76) gives *S. juncea*, L.: *S. arvensis*, L., var. *genuina*, var. *Mesopotamica*, Boiss., var. *Orientalis*, Boiss., *S. alba*, L.

§ 10, V, U, 186-197.

**ḥašišu* (with which cf. حشيش (grass, hardly cannabis at this period, see Lane, 573)). Maqlû V, 36 refers it punningly to *ḥašašu*, doubtless حشيش "make small", kima "HAR. HAR. ŠAR li-ḥaš-šu-ši "like mustard may her sorcery grind her small" (cf. L. 177 "TUR. RA "the small"; cf. Matt. XIII, 31).

**Haldappānu*, the -anu product of **haldappu*, may perhaps be ܚܠܕܦܢܘ, on the grounds that (a) *l* and *r* are frequently interchanged: (b) **haldappu* = perhaps an original (or derived) **ḥaldalu* = **ḥardalu* (cf. ܚܪܕܘ = ardu) ①. Conceivably ἄρψαυα, ἄρψαυα (Löw, 178) "mustard" is a mutilation of this, or of **ḥalamesu* below.

**Hallulain* (so PL. 23, K. 259, 5) possibly *ḥaldibbaia*, ba being possible from a re-ex. of § 9 V, L. 178.

**Halamesu* (v. **ḥalamesu*, § 9 AH, 268, 275, 10 and PL. 43, K. 4419, II, 11) = GIŠ.MEŠ.KI.IN.DIR(?) (Meissner, 13, 2, VI, 20), probably akin to GIŠ.ŠAĜ.KI.IN.DAR = *kankadu* (ib. 21):

For **uktimu* (?), *kuzuru*, **kušru*, **rubuš-rubuš* ② or **kizbat* I can suggest nothing. KU.KAK must be the powder.

**Supur ameluh* "men's nails" is clear. "HAR. HAR" ③ is, as I mentioned above, one of the yellow drugs for staining hands (see Olivier, Travels, IV, 328: cf. ὀνύχιος of the crocus, Löw, 215).

**A-a-ar sanapu* "sheen of sanapu" (whatever this may mean) comes very near σίανη ③. Theophrastus mentions mustard as *vānu*, Diosc. as *vānu* or σίανη (FH 61). Benfey (Hehn, Kulturpf., 206) conjectures the word σίανη to have been originally Sanskrit, but altered by Persians and Greeks. **A-a-ar takul* I cannot explain.

Note Maqlû V, 4, *ašapparakkima* "HAR. HAR u šamaššammi "I will send thee mustard and

① Cf. ܚܪܕܘ, Löw, 178. ② Hardly *šubbat šubbat*, Pers

ܚܪܕܘ, Löw, 178. HAR. HAR = *harharu*, PL. 47, 66.

③ So Stucken (with priority) Astralmythen, I, 5

sesame". The modern mustard-poultice is made of powdered mustard and linseed (P.1084) and doubtless sesame would have the same effect as linseed. Again, 52, 53, anaku anaššakimma škukru ištu šadî. "HAR. HAR ti'-ut ma-a-ti" It is I who raise against thee the turpentine of fir from the mountains, [and] the mustard, the ti'utu (food, necessary, accessory?) of the land.

Restore "HAR. [HAR ŠAR], MB. 26?

[The previous identification Nerium Oleander, L., was made on account of the superficial resemblance of haldappānu to ποδοδάφνη. Of the Nerium odorum, Soland, "hardly different" from N. Oleander, IMP (II 801) says "all parts of the plant, especially the root, are recognized by the natives [of India] as poisonous. . . . The mahomedan physicians describe the root as . . . only to be used externally; taken internally, it acts as a poison upon men and animals."



§ 10 W, ll. 198-207. "LIŠAN KALBI (62) CYNOGLOSSON, more probably ARNOGLOSSON, : "AŠ. PI. PI (6).

(a) "Lišan kalbi, simply, passim: EXT., anoint (37, 4, 22): [swelling] (73, 1, 33). INT., drink (48, 2, 17: 87, 5, 12 (?): 88, 3, 4): drink for speedy accouchement (with ammi, 67, 1, IV, 15: with karan šelibi (a solanum) and "GAB. LAM, lb. 16: with "IN. NU. UŠ, lb. 17): for stomach (42, 5, 5, 7): dyspnoea (? 59, 1, 15): jaundice (alone, Kū. III IV, 19). Quantity, 15 shekels (59, 1, 7). It occurs as "green" twice (49, 1, 11: 80, 1, 1).

(b) SEED (18) EXT., (7, 4, 15), for eyes (75, 1, IV, 6), feet (74, 1, III 9), lungs (55, 1, r. 5), female organs (KAR 194, IV, 11): bind on head against samanu (I, 2, 10, 14). INT., (59, 1, 7, 40: Kū. II, III, 27). Uncertain method, hinikti (89, 4, 8) dyspnoea (? 59, 1, 13: 60, 1, 4, 11), stomach or urine (63, 1, 5). Fumigate (91, 1, 8)

(c) ROOT (4). KA. DIR. BI. DA (78, 1, 21): urine (? 63, 1, 5): drink (Kū. III, III 23, alone for jaun-

66.

§10, IV, 4: 98-207

dice: cf KAR 203, IV, 62). (d) [ŠE.RÙ(1) Kù II, II, 7]

(e) LFAF(1): for cough, boil its leaf kima LU.ÚB.ŠAR "like
ears" (see Index), mix with sweet milk and refined
oil. (f) WATER, (1) EXT., (II, 2, 8), INT. for haḫi (KAR

203, IV, 38).

The plant is used as an amulet round the neck
for snake- or dog-bites (Scheil, RA 1918, 75). Lišan
kalbi ŠAR occurs MB 60.

Properly its name indicates "hound's tongue", Cy-
noglosson (*C. officinale*, L.); but there is so much con-
fusion between this and Arnoglosson (*Plantago*
Psyllium, L.) that we may well hesitate about the
exact identification, although long ago its equival-
ence with ~~𐎠𐎢𐎽𐎢~~ was seen (Kü. 76). ~~𐎠𐎢𐎽𐎢~~
(Pers. ~~خِرْكُونِ~~) is held to be one or the other; in
mod. Ar. both *Cynoglosson* and *Plantago major*,
L., are called lišan el-kalb (Post, 535). ~~𐎠𐎢𐎽𐎢~~
~~𐎠𐎢𐎽𐎢~~ is properly *P. major* L., (~~𐎠𐎢𐎽𐎢~~), entirely
different, is *lolium*, Löw, no. 130). IB, No. 2027, explains
lišan el-kalb as either *P. major* or *Lapathum* (sorrel), or
another plant with leaves similar to *P. major*. Löw (243)
says Ascherson heard it used for *P. major* in the small-
er Oasis. Even Diosc. (II, 152) shews this confusion (see
Sprengel's Commentary to this, Vol. II, 465).

In Diosc. (IV, 127) *Cynoglosson* is given as aperient, and
its leaves ext. for baldness; *Arnoglosson* (II, 152) for dog-
bites (in the case of tumours, the root is hung on the neck,
like the Assyrian), for inflammation, ulcers, eyes, ears, etc.,
and int. against consumption, etc., and when cooked
like a vegetable (cf. the Assyrian) against dysentery;
and applied locally to the womb. The seed is drunk
for diarrhoea, the root for fever, or taken for toothache.

Arnoglosson is thus much more close to "lišan
kalbi" than *Cynoglosson*.

Today, in India the leaves of *P. major* are used

for bruises, the root and leaves as febrifuge, the seeds in dysentery, and in China as diuretic. In Tuscany the leaves are used as an eye-wash (IMP. II 1049). Of *P. ovata*, Forsk. (ib. 1052) the seeds are used in poultices, and a cooling lotion is made for the head from their mucilage. Of *P. Psyllium*, the seeds are used like *P. major*.

Of the other Assyrian equivalents, "šīā (U. 198-199) = "snake-drug". Does l. 200 "dog's flesh, dog's tooth, dog's bone, dog's tongue" (cf. p. 252) convey the idea of the old proverb "a hair of the dog that bit one"?

For § 9 A G, l. 277 ["AŠ?"] P1. P1, and its equivalence with "lišan kalbi, arnoglosson: PL 66, Rm 203 v. 6, "aštabelānu", § 9 C J, aštabelu, and their probable equivalence *Cynoglossum officinale*, L., see p. 266 ff. For *hīl hakhū* see p. 265 (and also šammu ša AŠ). Note that in § 9 A B, l. 236 gives "AŠ. P1. [P1?] = "ha-[ru]-bu.

"Aštabelu occurs once in AM, apparently for some venereal disease, with lišan kalbi, etc. (32, 1, 7: see also § 10 C K), which shews that it is not exactly the same as lišan kalbi

○

§ 10 X, L. 208-213.

"KURBAN EKLI, "KURBAN EKLI (22)
 Anthemis, CHAMOMILE: "DILBAT (43), Anthemis,
 bellis, CHAMOMILE, DAISY.

(1) "KURBAN EKLI, simply, passim. EXT., anus (ii ii, ii, 14): head (3, 5, 9, hair? : 5, 1, 6 : 5, 2, 8 alone): feet (7, 1, iii, 12). With madrake, in some trouble


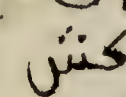
68. 810 X, U. 208-213

in which sleep is concerned) make into an allana (47, 1, 2). For uterus "when much water flows" (KAR 194, IV, 31). INT., drink (Kü III, IV, 12): for dyspnoea (59, 1, 37). Described as a drug šī-ki parasi(si) (Pl. 38, K. 4187, 13) "for stopping bile" ①. Enema (56, 1 + 7: 94, 2, 9). Uncertain method when šašalli (shoulders) hurt (48, 4 + 6): when sickness breaks out on body (84, 6 ii 10). "Yellow" kurban ekli "apply to anus, when the anus ha-am-ti eppuš "makes a pustule" ② (KAR 203, VII, 19). Perhaps restore PLS. 36 and 45 (81-2-4, 267 + 472), l. 11 [kurban] ekli = ša-mi mi-sir lib-bi "drug for binding the stomach". Particularly noticeable is [kurban?] ekli RI.RI (like "DILBAT RI.RI) 104, 1, 18.

"Kurban ekli "Gift of the Field" is, philologically strikingly like the Gr. kurban (Post 474) ③ "Chamomile".

"Nibi' ekli (v. nipi' ekli, Br. 2028) "Shoot of the Field", and "inib ekli "Fruit of the Field" approach $\chi\alpha\mu\alpha\iota\mu\epsilon\lambda\lambda\omicron\nu$ "Apple of the Ground".

The Chamomile (*matricaria Parthenium*, L. = *Chrysanthemum Parthenium*, Bernh., Common Feverfew) grows plentifully round Mosul. I well remember seeing the flowers of some form of chamomile carried past me one day in a basket. F. Jones (Memoirs, 396) quotes them as found in the Baghdad bazars. *Anthemis scariosa*, D.C. (the babunj) and *Chamaemelum prostrata*, M.B., are found near Kalat Sherghat (Herz. 012, 32).

① Ši-i-ku = šī. 616 (VR. 41c-d, 49) i.e., prob liver. trouble. Ši-i-ku LU-su (6, 6, 11): "šir... (šī-ki RAT ina GA imeri NAK (KAR 203, IV, 37). ②  pustule, or similar. ③ Cf. Pers قریبا نیون (Egypt) "ox-eye". Other Ar. names are اقحوان (Egypt)  (Mosul) (IB. No 121).

(cf. BFO III, 328). The tops of *Anthemis nobilis*, L., *M. Chamomilla*, L., (wild chamomile), and *M. Parthenium*, L. (Feverfew), appear all to be used as "chamomiles" for stomachic remedies int., and fomentations ext. (see P, p. 167). They are a very old and well-tried remedy, and "Kurban ekli coincides well philologically, and in AM in int. and ext. use. SM follows AM closely in their use; pour on head (II, 38-40), pains in excretory organs (507-508), disease of uterus (374). The composition with mandrake in AM is paralleled by chamomile and poppies in P (168, 169). We must, of course, distinguish the "yellow Kurban ekli" as *Anthemis tinctoria*, L., with yellow rays, as opposed to *A. nobilis*, with white rays.

2. "DILBAT. This has undoubtedly striking claims to be considered similar, although not included in the section. There would be no *prima facie* objection to its being identified with chamomile, even though it does not occur in the Chamomile section. Moreover, there are so many plants similar to the chamomile that exact identification is difficult (FH 3A). Pliny (NH XXII, 26) speaks of 3 varieties of anthemis, white, yellow, and purple, the leaves, flowers, and roots all being used.

The name "Dilbat" "Venus-flower" at once suggests "Daisy" for two reasons. First, the emblem of Dilbat, Ishtar, the planet Venus as represented on the monuments, a star in a ring, would allow us to presume a daisy-like flower. Secondly, the daisy was sacred to Venus; and this old tradition reappears in Christian times. Just as the characteristics of the Great Mother of the pre-Christian East were subsequently absorbed in the Virgin Mary, so was ^{قوس} "Mary tree" the *matricaria* in Andalusia (IB No 121); and "marybud" cannot be far distant.

"Dilbat in AM. (a) Simply (32): EXT., anoint (3, 5, 5), bind, (79, 1, 12); apply eyes (8, 1, ^{9, 1, 9} 32; 12, 8, 11), head (5, 2, 2); rub feet (69,

① Is ² *ἀρνικὴ* of Diosc. III, 144 (anthemis) ¹¹ *ἰσθάρ* ¹² *ἄπλε* "Ishtar + apple" (Löw, 404)?

70. §10, X, U. 208-213.

2,5: 70,7,10): wash (70,3,4) "D. RI.RI, 52,5,8): use for mišitti (77,8,10: 79,1,17): for swelling (100,3,13): INT., drink (48,2,5; 48,4,10, stomach). (3) SEED (7): EXT., bind (70,7,4), eye (73,1,IV,5), apply, foot (74,1,36: iii,8): use for mišitti (77,2,4). INT., drink 3 še (90,IV,21). (c) JUICE (1), for haemorrhoids (KU. 919, 58,2,7) (d) [šē]. RŪ. 2? (1) (92,6,3).

Its use is apparently distinct from "kurban ekli", the frequent use of the "seeds" being indicative. The prescription of such a small dose as 3 še would almost suggest a fear of poison; but from the very frequency of the use of "DILBAT", poison is not to be suspected.

At least seven equivalents are given for it on PLS. 32 and 26, K. 10466 lately joined to K. 14822 (L... GA, ... LUH, ... GA(?)) In Johns, ABD 1042, 6: 11:7,14, š DILBAT or "DILBAT is mentioned in lists with other drugs, with every indication of practical use (the det. š being indicative of fragrance). The Adjective RI.RI, applied to it above, as well as to the chamomile "kurban ekli", means "beaten", "pounded", "crushed".

Exactly with what flower it is to be identified is doubtful. The Milfoil (*Achillea millefolium*, L.) yields a penetrating, essential oil, possessing the peculiar flavour of the plant (VK. 556); it has a pungent foliage (Sowerby, English Botany, V 58) and is used for healing wounds. It is found in E. Caucasus, Persia to base of Demavend (BFO III, 255). *Inula helenium*, L., elecampane, another of the Compositae, is another medicine, but its root only is used, which rules it out. Bellis, the Common Daisy, is said in Gerarde (509-512) to have healing effects (eyes, joints, bruises, B. major being used, like "DILBAT" for ulcers and eyes). Indeed, if we are to consider "chamomile" as an equivalent for "DILBAT", we might see in š DILBAT the distilled oil, which has a strong, pungent taste. There is no little force in the argument that chamomiles are as common near Mosul as "DILBAT" is in AM. But it is not easy to distinguish between "kurban ekli" and "DILBAT", and I suggest that "chamomile" may represent both.

* *Anacyclus Pyrethrum*, DC.

From its obvious similarity in form, as "Sunflower," to the preceding, this is discussed here.

Called *šāmas* (Gwynn, PSBA, 1914, 243, 32), it is suggestive of some daisy-like bloom^① (cf. the representation of the Sun on necklets on the monuments). It can grow on houses or walls (ib.). In AM it is used (as simply): EXT., swelling (73, 1, 7, cf. 24): anoint scorpion-sting (91, 1 r. 9): probably used for snake-bite (PL 23, K. 9283, 6): *umṣati*: (presumed EXT., 17, 5, 6). In 74, 1, 25 it is prescribed for an affection of the feet as "the "AN.[U]D, of which the eyes (*šip*) are turned to the west before the Sun (rises) thou shalt pull up, thus saying, etc. This use of "eyes" is paralleled by "daisy," "ox-eye," and *oculus* (cf. Diosc. III, 145, where the *Parthenium* is said to be called by the Romans *solis oculus*, and by the "Africans" *thamakh* (= *šamas*?). (b) Juice (1) with licorice, bind (feet not walking = paralysis?, 63, 1 r 13). (c) [ROOT (1)], PL 23, K. 259, 6, locally for toothache. Is "root" to be restored for its use for the disease *bennu*, ib. K. 9283, 17, locally applied?).

IDENTIFICATION. A daisy-like plant with a very hot pungent root, with the juice used for paralysis: never drunk: small enough to grow on house-walls. The obvious identification is *Pellitory of Spain*, Spanish Chamomile, *Anacyclus Pyrethrum*, DC. It resembles a large daisy: is a native of Algeria, and a favourite remedy in the East. ② The root is chiefly used as sialagogue for relief of toothache, and occasionally as tincture (stimulant, rubefacient, FH. 342). Gerarde says (618) that the root is used for agues, palsy, and toothache.

① *شامش* was given me in Basrah as the name of the Sunflower. ② Post (428) gives the Palestinian representatives as *A. radiatus*, Loisel, and *A. nigelloefolius*, Boiss. The former, with yellow rays, still more nearly approaches "Sun-flower".

72. § 10, Y, ll. 214-219. ^uKUR. RA, NINŪ ŠAR (100)

** AMMI, or similar Umbellifer.

(a) Simply, passim: "green" (88, 2 r. 8) EXT. bind (30, 2, 3),
breast (26, 3, 3): anoint (7, 4, 19: 19, 2, II, 6: 84, 4, II, 9 96, 4, 3:
KAR 203, 43, 44): apply eyes (8, 1, 13: 10, 4, 5: 19, 5, 6, 7, 10: 25,
6, 7), feet (74, 1, iii, 3), anus (53, 6, 9) teeth (21, 1, 4: 28, 1, 3): wash
head (64, 1, 37). For foul breath (23, 1, 6, 9, 13: 25, 6 II, 11: 26,
6, 4, 6, 7, 12): cleanse mouth (26, 3, 1: 34, 3, 9): for mouth or tooth
trouble (78, 1, 15, 19, 25, 30): mouth (36, 2, 3): when mouth spits
yellow (31, 6, 7): when illaku comes in speaking (19, 5, 5): for
nose (26, 1, 3). Enema (56, 1, 6: 57, 5, r. 4: 94, 2, 10 and ii 4):
as allan (43, 1, 3, 7: 57, 5, r. 6). Fumigate (78, 10, 2: 93, 1, 11:
99, 3, II, 19 and r. 4), ears (33, 1, 34). INT., drink (36, 2, 12:
89, 1, 8), for bile (Kū, III, II, 14: KAR 203, 33, alone): for
accouchement (with lišan kalbi, 67, 1, IV, 15), for stomach
(48, 1, 9: Kū II, III, 12). Chewed (27, 2, 8) Quantities, 10 shekels
(57, 7, II, 6): 5 shekels (57, 5, r. 4: 64, 1, 8): (b) KU. ^uKUR.
RA (1 (?) ka 77, 2, 8). (c) [LEAF, for KU. 919 (KAR 203, VII, 9)].
(d) [ROOT, for cough (KAR 203, IV, 30)]. (e) A shrub ^uKUR.
RA. DAN (?) GA = amudai exists (IR 44, 52 a).

L. 214 = "a plant of the garden": l. 215 [^u]šami
hinti = either ~~šamti~~ (like šamti, § 10 x, note), or
from šamātu "burn".

§ 10, L (q.v.) identifies urnū with mint, and
ninū with ammi. For the use of ammi see
note § 10 L. Ninū, of course, may be another of
the allied umbelliferae, of which there are many
used as carminatives in medicine. ①

§ 10, Z, ll. 220-221. ^uALAMŪ.

KAR 194, IV, 23 prescribes it EXT., for uterus. § Z
shews that it has a fruit; PL. 37, 81-2-4, 269, 3 shews
that its root is used. Johns ADD No. 1042,
mentions it among other drugs (šašumtu, dil-

① ^uŠU. TAR. KU, stomachic, is an equivalent, KAR 203,
VII, 34: PL. 43, 5. 60, 14. Cf. AM 20, I, II, 6.

bat, etc. In § 10, c it is given with šamrānu "fennel" and "arantu", all = šamme HAZUN, thus doubtless an aromatic plant, and possibly an umbellifer.



§ 10 AA, ll. 222-233. U.GIR, ⁱašagu(30), THORN, SPINA, especially LYCUM.

(a) Simply, not common, but there are frequent references to "a fire of ašagi", and once (98, 1, 11) to bi-en-ti ⁱašagi "charcoal of ašagi" which indicates a stout shrub.

(b) ŠE.RÙ(6), EXT., vint (92, 4, r. 4; 98, 3, 10), used for miš-itti (76, 2, 10; 82, 2, 5), Fumigate (91, 1, 5).

(c) ROOT (9), EXT., anoint (97, 4, 4), bind temples (102, 38) INT, drink, dyspnoea (59, 1, 24 (25?)); illatu (root?, 31, 4, 22).

(d) 15 še si-ik-ti (1) (31, 4, 9)

(e) KU.KU (1) [bind] on head for samanu (1, 2, 18).

(f) HĪLU "gum", l. 239. Not elsewhere, as far as I know.

(g) [SEED, drink for woman's disease, KAR, 194, IV, 5].

The part-dup. of § 10 AA, AB, PL. 46, Rm. II 203, gives:

| | |
|----------------------------|-------------------------------------|
| 4. U.ERITIL.LA | u |
| u ša-mu ⁱ U.GIR | u |
| u kur-ba-si | u ⁱ [U.GIR ina šu-ba-ri] |
| u e-bi-tu | u [" ina ki-na-ki] |
| u sa-am-tu | u " [ina Me-luh-ha] |
| u ku-šab ^① -ku | u " rabû ina ki-na-ki] |
| [u] kiš-[ša]-tu | u ku-[šab-ku?] |
| [u] hĪl šimtate | u hĪl [ⁱ U.GIR?] |

ⁱU.GIR also = ittitu (Reisner, Hymnen, 114, 15; M. '13, 2, 27, l. 31). Also AM 67, 1, 24, ⁱU.GIR ša eli pitikti usi "ašagu which springs up on a wall?" 102, 1, 38 "root of ⁱU.GIR ša eli KI.MAH, ašagu which is on a grave?" 99, 3r. 15, ⁱU.GIR ša ina eli KI.MAH azû "which springs up on a grave?" 88, 2, 8, ⁱU.GIR ša ina tarammi azû, "which springs up on a tarammu"; 1, 2, 18, KU.KU. ⁱU.GIR ša ina pitikti-šu irabû, "KU.KU of ašagu which grows on his wall." It may occur even in a house

① Clear.

(Gwynn, PSBA, 1914, 242, 26) and so plentiful was it near Susa that Ashurbanipal compared to it the numerous corpses which filled the ground (VR, 3, 90).

IDENTIFICATION: Ittitu (cf. CT. XVIII, 4, VIII-VII, 3, e-ti-it-tum = it-ti-du), long identified with TISS, Rhamnus, Buckthorn. With ašagu Pick rightly compared ~~was~~ Lycium (Assyr. u. Talm., 32) which IB 1602 also gives as Rhamnus. "Lycium", a thorny plant of Cappadocia and Lycia, has been identified with one of the numerous Berberidæ, (for which see IMF I, 62). ~~BE IV, 239 gives Lycium Europæum, L., found in Anatolia; L. Arabicum, Schweinfurth, Arabia; L. Barbarum L., Mesopotamia. PC III, 260 quotes "Lycium" as common in Mesopotamia, and also mentions a "buckthorn," seen occasionally. In India a watery extract from the wood or root of several species of Berberis is used for eyes, and as febrifuge. The bark is tonic, antiperiodic, and diaphoretic (B.M.P. No 16).~~

Diosc. (I, 132) prescribes Lycium for ears, ulcered gums, pruritus, menses, dysentery, blood-spitting. IB (No. 1602) prescribes leaves of ~~gu~~ for children's eyes, and the juice EXT. and INT., and its branches in fumigation against venomous beasts. P. 242 prescribes the bark of the root of B. vulgaris, L., as a bitter tonic.

AM adheres fairly closely to this, and hence we may consider 'U. GIR = Lycium. But its equivalence with ittitu, Rhamnus, shews that it is not necessarily only Lycium, a warning borne out by some of the words in §9AA.

'IGI is rather ~~§733~~ "thorn" than ~~§733~~ (~~§733~~) Alhagi maurorum, which possibly appears as agi on the Carchemish Tablet (see my chapter in Woolley, Carchemish, II, 139). In CT. XVIII, 3, VIII-VII, 33, e-gu = a-ša-gu.

'DADĀ, cf. §9AB, l. 235, "drug of dadā = ha[ru]bu" I have tried to shew further that this is the A-cacia (§10AB, 2).

"Plant of the Mountains" and "Fruit of the Mountains" may well refer to the Berberis. "GI.GIL "flower", as an equivalent of "thorn" would seem to mean the thorny rose-bush (cf. ⁱGĒŠTIN. GIR.RA = amurdinnu "rose" SAE 3413; Jensen KR VI, I, 516), followed in L. 227 by "amaridu, also = 𐎠𐎢𐎡𐎢 "rose" (cf. CT. XVIII, 3, VIII-VII, 34, amaridu = 𐎠𐎢𐎡𐎢 (i.e. ašagu).

"SAMTU, " ⁱU.GIR in Egypt", i.e., the Egyptian thorn, = biw Acacia Nilotica (Meissner, OLZ, 1903, 266) ^① Perhaps "h̄il šimlato (= "h̄il ⁱU.GIR) = gum arabic, the produce of the Acacia (see next section).

Rm ii 203 (above) rather suggests a doubt whether kur-basi, etc., are ⁱU.GIR or ⁱU.GIR.GIL, since samtu here is the same as the others, and yet on § 9, AA, 233 is ⁱU.GIR. The presumption is that they are all thorns of some kind. "Kurbasi, a thorn in Subari, is barely possibly καρπῆσιον, ~~κωρασι~~, an aromatic wood.

"ABITU, the same in Canaan, in which MA 12, sees ^{𐎠𐎢𐎡𐎢} III, a kind of thorn, but I prefer ~~κωρασι~~, the "Egyptian thorn" of Löw, 197 (PS 62). Cf. a-lu-u = 𐎠𐎢𐎡𐎢 (i.e., a-ša-gu), CT. XVIII, 3, VIII-VII, 35. The larger variety, "kušakku = "kiššatu and pirki ša BU occur § 9 AO.?

Since we can find ⁱU.GIR as equal to Lucium, wild rose, and acacia, it is obvious that it may mean any kind of thorn.



§ 10 AB, ll. 234-240. "HARUBU, "HARUPU (2); "ERI.TIL.LA (1)

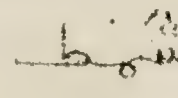
**CERATONIA SILIQUA, L.

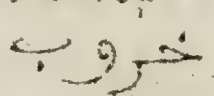
Long identified with 𐎠𐎢𐎡𐎢, the carob (Meissner, '04, 28: '07, 44) which occurs in Iraq (PG II, 268), where I heard it and the Acacia called 𐎠𐎢𐎡𐎢 (Basrah). It demands discussion.

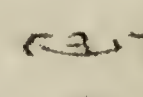

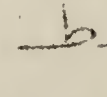
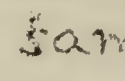
"ERI.TIL.LA (1) "Plant of the City of Kifo", its equivalent, possibly referring to ^①I heard a name šamut given in Basrah to what was apparently an Acacia. The Acacia is common there.

76. § 10 AB, ll. 234-240.

the City of Eridu, as representing S. Babylonia. *C. siliqua* L., grows, if my recollection serves, more in the hotter southern Mesopotamian regions, than in Assyria. In AM III, 5, 4 [u²?]RI.TIL.LA,

[u²ŠA]-AM DADA.A, to be restored thus (and not [A].AM (= il daku) as M, 04, 28): = "[Drug of the dadâ-thorn]" "AŠ.PI.[PI?], restoration uncertain. "ŠAM iU.[GIR] "drug of the thorn", "KUR-AB-DU (or TOM?) uncertain. "HÎL ŠIMTATE ( aromatic substance, may perhaps be thorn-gum, gum-arabic, or perhaps = šamut, in Basrah, see p. 75, n. ①. Gum-arabic, however, can hardly be called aromatic. ① "HÎL šimtate is a drug used for a hollow tooth (PC. 23, 5, 259, 14), and since it is used here in conjunction with myrrh, doubtless it is more as a gum for filling a cavity, like ivy-gum dissolved in vinegar for the same purpose in old medicine (FHS 264).

KU.TU.HU [MEŠ] "doves' dung", as equivalent of "thorn-seed" gives an explanation for the difficult passage in 2 Ki. VI, 25, of the famine in Samaria. Bockart (quoted W. Smith, Smaller Bible Dict., 136) says that the Arabs call a species of cicer "doves' dung" ②; here, however, we have a contemporary explanation, since the sweet fruit of the  is eaten (Lane, I, 716). KU.TU.HU. MEŠ ša i gišimmarî šadû UD.DU-ti, i.e., the real doves' dung collected from a palm-tree, is bound on the head for samanu (1, 2, 4, cf. 15).

Of "garuba" itself there seems to be some little doubt. It doubtless can mean the carob; but , grana Berberis, according to some (Bruck, 124; Ps 138) must not be forgotten. Moreover it is curious that  is the fruit of the  (cf.  samtu) *Acacia nilotica*, which indicates a confusion between *C. Si-*

① There is a pulp from the carob-pods said to resemble manna (PC, VI, 433). ② IB, No. 538 gives, for

جوز حنظل، خرو حنظل

liqua and Acacia (Löw, 197) which reappears in ~~ⲁⲓⲛ~~ = Ceratonia, but ~~ⲁⲓⲛ~~ ⲁⲓⲛ succus acaciae. IB No 66 says that ~~ⲁⲓⲛ~~ and ~~ⲁⲓⲛ~~ are of the ~~ⲁⲓⲛ~~ from which acacia gum comes; but the Persian of Steingass' Dictionary, 457, gives kharnūbi nabatī "capers", and kh. hindi "cassia fistularis" ①. I might add that I submitted a specimen of "ⲁⲓⲛ" from Basrah to Mr. H.G. Carter, of the Botanical Survey, Calcutta, and I have his note before me: "The vernacular name belongs to Ceratonia siliqua, but the specimen is probably near an Acacia." There appears, therefore, always to have been some confusion between the two.

[u] Iniv. U. GIL = "ha-[ru-bu](!) "fruit of the thorn" CT. XVIII, 36, III-IV, 25, i iniv U. GIL = a-bu-li-lu (M. 13, 2, 27, 82). In AM tak harubi "stone of carob" is used EXT. (15, 3, 5): [tak] harubi, EXT. (95, 2 ii 13), and perhaps ha-mu-[b]i (79, 1, 14).

○

§ 10, AB, 2. u i U. GIL. GIL, "DADANU (15), GUM ARABIC (?)

(a) Simply, (5): EXT. alone (75, 1, 29). For dyspnoea a (prob. drink, 60, 1, 2; perhaps 60, 1, 21). Described as sam qāc (KAR 203, IV, 4). Quantity, 10 bur i U. GIL... (83, 2, 11).

(b) SEED (7): dyspnoea (drink? 59, 1, 13, 43): for illatu in mouth (29, 5, 17). (c) JUICE (?) see 31, 7, II, 12.

(d) KU (powder) with KU of mandrake, drink in beer for dyspnoea (59, 1, 30).

Its chief use, is, therefore, with lung-affections.

"Dadā must be the proper name of the plant and "dadanu the -anu product, in which we may perhaps see "gum-arabic". "U. GIL. GIL, literally "thorn + flower" may well be referred to the acacia with its spherical yellow blossoms. Gum arabic, the tasteless, soluble gum from the bark, is used as a de-


① Lane (716) says that the Syrian ~~ⲁⲓⲛ~~ has a fruit like the Cassia fistula.

78. §§ 10, AB, 2: AD, ll. 243-250.

mulcent in coughs, and in combination with other medicines to correct their acrimony or suspend them in water (VK. 557). Theophrastus (quoted PH 208) says that *Kopti* comes from the Egyptian 'kavθa. Diosc (1, 133) says, of the Acacia, that some press a juice from the leaves, but otherwise he does not coincide well with the above. IMP I, 502, says of Acacia ferruginea, DC, (the Indian gum-Arabia) that it is a useful adjunct to other medicines in pulmonary and catarrhal affections.

§ 10 AD, ll. 243-250. GIŠ.NIM, "BALTU (20), Capparis spinosa, L., CAPER.

(a) Simply, not common; for dyspnoea (59, 1, 25): mixed in oil (4, 6, 9). (b) JUICE, (3) EXT., feet (69, 7, 9): assuages hands and feet (93, 3, 18). (c) ROOT, EXT., 99, 2, 2: bind temples (102, 1, 38). "The Root of the "white baltu", "which when thou uprootest it hath not seen the sun" applied in a pounded state with oil to a broken tooth (PL. 22, K. 259, 10). (d) ŠE.RÙ (niḫi), EXT. bind (92, 4, 4; 98, 3, 10): for mišitti (76, 2, 10). Fumigate (91, 1, 5). (e) SEED (1) for illatu in mouth (29, 5, 17).

In 1903 I identified baltu as the Caper (Devils, I, 137), Bala, balla, baltu, and amumeštu are synonyms (§ 9 AD and CT. XVIII, 3, VIII-VII, 31-32); PS 527a gives  = medicamentum quoddam, sc. radix capparis spinosae. The plant grows plentifully at Basrah: Herzfeld (182, Beih. E) also noticed it at Kalah Sherghat. There are two capers, *C. sodada*, R. Br. (BFO I, 420, in *S. maritime Persia*), quoted in Post as tundûb: and *C. spinosa*, L. (Post, *el-asaf*). The latter is a low bush, blooming in summer with a delicate white flower, turning presently to a fleshy, red trefoil, the three carpels of which curl backwards, exposing an offensive-looking, red interior, on which are a few black seeds. Arab children gnaw this red pulp.

§ 10 AD, ll. 243-250 :: 10, AE, ll. 251-254, 79.

Ashurbanipal (VR, 3, 40) filled the ground of Susa with corpses "like the *i baltu* (caper) and *i U. QIR* (thorn)" doubtless influenced in his simile by the appearance of the local flora. An omen is drawn from the "white *baltu*" springing up in a field in a city (Boissier, DA, 76, 18).

"*Baltu* = "plant of (female) pudenda" (perhaps suggested to the Babylonian mind by the appearance of the flower, see p. 78).

The caper has always been considered an aphrodisiac (cf. *šir šir* 28, Eccl. xii, 5). Cf also

l. 248 "*UD-BA* "drug for begetting", *banû*, and "*ZIR.GIN* "seed-setting" "*šir šir* must be compared to *A. šir. A. šir* =

ahula-baku (Thureau-Dangin, RA, 1919, 169, xxi). A. L. E.

GIS.NIM = "caper-buds" (= *šir. ru*; it should be noted

that *šir. ru* and *zerû* "seed" are distinct in AM).

The caper stirs menses, and the root eases toothache (Diosc. II, 204). It is used for lumbago, and paralysis; the root for liver, chewed for toothache; a decoction in vinegar for ulcers of mouth; the root-bark for spleen (Pliny, NH, xx, 59). Gerarde (748) describes two kinds of caper-

plants, giving not dissimilar uses. In SM (II 658) its leaves in vinegar are smeared with human blood on scabies.

In India *C. spinosa* (root and root-bark) is used for palsy, dropsy, and gouty and rheumatic affections; the fresh juice kills worms in ears: Of *C.*

Aphylla, Roth, the top shoots are powdered and used as a blister; and when chewed relieve toothache (IMP, I, 106, 108).

○

§ 10, AE, ll. 251-254 "*HAR.HUM.BA.ŠIR* (10) [*BAHURU*].

"*HAR.HUM.BA.ŠIR* in AM simply, EXT, 70, 2, 15: 92, 4, 10: anoint on scorpion sting (with others, 91, 1, 5): INT, drink (78, 3, 6: KAR, 193, 7 [?]), used for *maška* hurling (31, 1, 7): A "stone" ① of "*H.* exists, Pl. 10, VI, 23: 15, 6: 17, 6: and cf.

① As Meissner (Supp. 59) shows that a *mu-ši-il-tum* stone exists, we must read *mu-ni-tu* as *mu-sal-tu*. Supp. 30.

80 § 10, AE U. 251-254; AG, U. 257-278.
K. 4325 (PL. 3) III, 27: 4368 (ib. 5) IV, 19 whence it will be seen
tak-bahrî = tak_H = tak-misaltu. This seems to shew con-
clusively that ^uH = the plant bahrû, and that it
has a stone (used AM 105, 1, 1). ^uHIM.TA.E on § 27 =
^usupalu, where ^uNAM.TA.E has the same value. ^uNAM.
TA.E occurs § CG, l. 635: This must therefore explain
a property of the plant.

§ 10, AG, U. 257-278. ^uKU.MA.LAH (1); ^uMUL.TAMTIM.
^uKUL.KULLANU (1), *^uCASSIA: KASÎ ŠAR (181), ROSE.

This is a difficult section which has every appear-
ance of being an amalgamation. In § 9 AG, for
instance, the well-known ^uKA.AB.BA is included
with ^umul tamtim, but ^uKA.NI is in the previ-
ous section. Again PL. 30 (quoted below) puts kul-
kulanu at the end of a section, which does
not contain any word similar to those in § 9,
AG; it would be well, therefore, not to consider
all § 9 AG as containing the same plant.

^uKU.LUL.A = "fox-dung", equivalent to ^uKU.
MA.LAH = "sailor's dung", which is apparently
a plant of the river-bank (l. 259), and is call-
ed "plant offspring of the flood", i.e., the river.
From ^uKA.NI (l. 261) it evidently belongs to § 9
AR also. ^① What it is, except that it is a water-
plant or-weed in all probability, I cannot sug-
gest. In AM 49, 4, 8: it is described in KAR 203,
50 as a drug for removing a blister or inflamma-
tion, anointed in oil. ^uMul tamtim, "full-
ness of the sea", or perhaps ^ukakkab tamtim,
"star of the sea", repeated in § 9 AG. It might
well be a water-weed of the great lagoons,

^① Zir ^uKA.NI (KAR 185, III, 17) in a group of ma-
gical plants: $\frac{1}{3}$ še of zir ^uKA.NI to drink, 90, tr. 20.

which were called "the Sea" in Babylonian, possibly *Ranunculus aquatilis*, L., (Ar. *š'lint*), which grows thick on the pools at Basrah: or *Salvinia*, sp. near *natans*, (identified for me by Mr. Carter), floating on the surface of pools at Basrah (Ar. *wahham*). But quite doubtful.

It is curious that a "popular" plant-name should follow, unless indeed "ahulap" is an equivalent for "mut tamtim", which seems very unlikely. Again, perhaps, we can have recourse to the "appendix" theory.

"Ahulap, the "How-Long" plant, "vulgo the pirhi whereof the juice children and women collect," like opium, § 10, G, I. Note *ahulabaku* = A.š. A.š. (*Jhurrau-Dangin*, RA, 1919, 109, XXI), "A.š. A.š." being the *baltu* "caper" (§ 9 AD, L, 243). If this group for "ahulap" were by itself, "caper" would be the obvious translation: *pirhi* would be *š'nti*, said to mean the caper, of which the buds are picked. But the *baltu*-group (§ 9 AD) contains neither "ahulap" nor *pirhi š'ar*, so that there is every reason to consider this plant something else. At present, however, I can suggest nothing satisfactory. In AM $\frac{1}{3}$ ka. *pirhi š'ar* (6, 3, 8): the seed of *pirhi š'ar* (2) (45, 5, 4; KAR 205, obv. 6: for feet, ext., (74, i, iii 10).

"*Gulgullanu* and *kulkullanu* have been supposed with reason to be *Jälö* (*š'nti š'ar*) *Cassia tora* (*τράχυν (?)*) Kü. 73. The *Cassia* of the ancients must not be confused with *senna*, which, according to C. Martius (*Versuch. einer Monog. d. Sennerblätter*, 1867, FH 191) cannot

① It can hardly be *agallochum*, *š'nti š'ar*

82. § 10 AG, 257-278.
be traced earlier than the 9th-10th cent. Cassia,
𐤒𐤏𐤍𐤏𐤍, 𐤒𐤏𐤍𐤏𐤍, and probably kasîa in late cunei-
form contracts (cf. 18 ka kasîa, Strassm. Nabd.,
269, 3, 5, etc) is a bark related to cinnamon. ①
Post (Hastings DB, I, 358) considers it highly probable
that the Cassia of the OT is the Cinnamomum
Cassia, Blume. Actually this plant comes from
China, but there are other kinds which probably
afford Cassia and Cinnamon (BMP No. 223),
e.g., C. Tamala, Nees, with a wide range from
E. Himalayas to Burmah, and also Queensland.
The medical properties of Cassia are similar
to those of cinnamon, and as a spice Cassia
buds have been known in Europe since the
Middle Ages (ib). Post (loc. cit) quotes Rev.
XVIII, 13, of cinnamon coming from Babylon.
Two pounds of 𐤒𐤏𐤍𐤏𐤍 and also of cinnamon
were part of an offering made by Seleucus
II (FH 467). Galen says the finest cassia may
be substituted for the lowest quality cinnamon.

On the whole there is great probability of
kulkullanu, cassia tora (Forsk. EF ex 1, 86).
But there are two other possibilities: 𐤒𐤏𐤍𐤏𐤍,
a plant with an aromatic seed, black and
very hard, from which 𐤒𐤏𐤍𐤏𐤍, a medica-
ment, is made. Razi mentions a plant
of this name known in Irak, where they
eat the cooked seeds, and make clothes of
the branches; it appears to be something
like hemp (Dozy, Supp. II 398): or 𐤒𐤏𐤍𐤏𐤍
Dolichos cuneifolius. Its rarity in

① Schott, JAOS, 1920, 263, must be wrong when he
says that cassia leaves are clearly senna in the
Babylonian records. ② Löw (348) makes 𐤒𐤏𐤍𐤏𐤍 a
form of C. Zeylanicum var

AM is in keeping with the probable difficulty of obtaining cassia. Its seed with leek, etc., anointed, prevents grey hair (4, I, 2-4). Is this really the seed, or, as does happen, merely one form of the product? Its leaf is used for teeth (PL. 23, K. 239, 3). The root is applied to the uterus with five other drugs for too much fluid flowing (KAR 194, IV, 31). In more modern times Cinnamon-water has been used for the ill-odours of carious teeth (HS 358); the bark for uterine haemorrhage (BMP No 224). Cassia bark contains tannic acid, which, with a persalt of iron gives a decoction of blackish-green (U. 223); perhaps the hair-dye of AM is referable to this.

It occurs PL. 10, VI, 28: 40, K. 14051, 3. PLS, 36 and 45, 81-2-4, 267 + 472 (which I have lately joined) gives [u kul]-kul-la-nu, šammu ša ... u(?) parasi(si) "a drug for stopping ..." "Gulgulla, PL. 39, K. 8287, II, 10.

Its equivalents (U. 270 ff) "kisat širi^① and "kasi širi look as though the writer knew a value kasi, and was punning on it: "snake-bind"): But I can find no use of cassia or cinnamon as an anthelmintic. "Šami kapadi, 797 serpēt, but doubtful. It can hardly mean a creeping plant; cf. § 9R, L. 168. "Nam harū šamu, possibly from mahāru, indicating something pierced or slit (equivalent to ~~šam~~ → ~~šam~~ = "cassia"), "the red slit (stripped) thing" (= bark), but doubtful. As for "kanipanu it would be ridiculous to compare the word cinnamon with it. L. 264, "Hound's tongue", seems to bear out the "appendix" theory for this column.

Now, since kasi has occurred here it will be well to discuss the very common, but entirely different kasî šAR here.

① Sayce, ZK II, 215, connected Kisat with a word kisiti "kind" (IR. 19, 87).

84. § 10, AG, ll. 257-278.

KASĪ ŠAR, spelt ka-si-i, entirely distinct from ka-si šir and ki-sa-at širi. Its very frequent use in AM is something of an argument against cassia, which is not in too common use. The plural adjectives applied to it in the prescriptions (thus indicating it as a plural, as distinct from ka-si širi and kasīa), are perhaps more numerous than to any other drug.

Moreover PL 30, 2ff., (mutilated, it is true) does not include kasī in the same section as "kisat [širi]" coinciding in this omission with § 9, AG: -

| | |
|-----------------------------|---------------------|
| 2. u BA | u |
| u NU. ŠE.GUB. BA | u un- |
| u AN. ZU. ZU | u ha- |
| u ša- ra- nu | u ku-r[u(?) . . .] |
| u i-šî-in ekli ^① | u um- |
| u kul-kul-a-nau | u ki-sat [širi] |
| ② u ku-li-la-an-na | u pat-ra- |
| u ŠA. ŠA. DA | u gir- |
| u e-di-e-na | u [?] |

We can now consider the use of Kasī ŠAR in AM: (a) Simply, passim (approximately half the total): EXT. for swelling of "wind in the heel-muscle" (73, 1, 19, cf. SM II, 683, "wind" of the legs, dust of oven with oil of roses as liniment); for head (1, 3, 8; 4, 2, 5), eyes (8, 1, 22; 8, 6, 3; 15, 6, 8; 10, 11; 16, 1, 8; 19, 6, 7, 10, 15(?) : 25, 6, 7; 96, 1, 12), mouth (79, 1, 6), illatu (? 29, 5, 5), ears (38, 4 ii 12), anus (57, 5 r. 7), feet (74, 1, 33); wash (? 49, 1 ii 8), bind (93, 2, 3). Apply (alone first to penis, in urinary trouble, 62, 1 ii 9). INT. drinks (80, 1, 2; 83, 1 r. 20; 89, 1, 5), in milk for dyspnoea (59, 1, 21); eat in oil and honey (80, 1, 5). Fumigate (64, 1, 28; 99, 3, 16), ears (33, 1, 31; 35, 1, 7; 38, 2 r. 10). Enema (56, 1 r. 7; 94, 2, 9). Uncertain method, unšatum (17, 5, 9).

① Once in AM (74, 1, 15), apply alone to swelling.

② These 3 entries inserted here for completeness.

"band of ghost" (93, 1, 15), *māšit* (76, 5, 7), stomach (39, 1, 31; 48, 6, 4; 79, 5, 2). Described as *šamnu* H. TAR. HU (KAR 203, IV, 57). Prepared thus: RAT ("pound", 53, 4, 6, etc.): in milk RAT (15, 6, 11): boil in water (54, 1, 10): parch (la-kal? (Br. 939) - lu) it like ŠE.SA.A (36, 1, 7; 38, 4, ii, 3). Quantities, 1 bur (91, 6, 4); 5 bur (24, 4, 2); 1 shekel (41, 1, IV, 17; 49, 4, 17; 81, 1, ii, 14); 3 shekels (64, 1, 8). The adjectives applied to it are (always in the plural), *kalute*, parched, dried (5) (28, 8, 8; 38, 4, ii, 12; 44, 1, ii, 8; 80, 1, 2; 98, 2, 8); *hasluti* "crushed" (2) (11, 1, 23; 80, 1, 2); *pa'zuti* (80, 1, 5).

(b) "WATER OF KASĪ" (passim, as a medium in which to steep drugs): EXT., bind (3, 5, 9; 20, 1, 37; 74, 1, 33), head, (1, 2, 12), temples (20, 1, 20), eyes (or apply, 8, 1, 12, 14, 15; 16, 3, 3): wash (5, 5, 9; 22, 2, r, 8; 62, 1, ii, 2, 10) head, after washing with cow's urine (5, 5, 12): cleanse mouth (24, 5, 3): for KU.915 (ext.? 58, 2, 6), for breast (51, 12, 7). INT., drink, (59, 1, 27): stomachic (38, 1, 9). Quantities: $\frac{1}{3}$ ka (38, 1, 9): 10 bur (59, 1, 27): 5 ka (49, 4, r, 5). Adjectives applied: *sikruti* (11, 2, 41), *sikruti* [6] *ahrute* (80, 1, 16), *sikruti* *Bil-ti* (= *šše-ti*? or *bašlu-ti*?, Kü 1, 11), *BIL-ti* (62, 1, ii, 10).

(c) SEED (3), headache (64, 1, 22), *hinitis* ... (59, 1, 13), *hinitis* (89, 4, 9).

(d) ŠE.ĀU, buds (1) (51, 5, r, 4)

(e) KU (powder) (2) 8, 1, 14; 34, 5, 4.

(f) In composition *kasī amhara* (1) (31, 4, 20, for *illatu*). This = "atuartum and "hasarratu" (89 D. L. 23), q.v., apparently *Euphorbia helioscopia*, L.

Its equivalences are peculiar. "ka-si-u = "kam-ti *ereši* (89 D. L. 25), "ka-su-u = "am-ka-ra^① (L. 26), and " (= "sarmadu) 89 I, L. 95. But since "kam-ti *ereši* is probably the *Euphorbia*, and "sarmadu the poppy, we must see in "kasū a word which will apply

① "Amhara (32, 6, 6): with styrae apply to uterus (KAR 194, IV, 9): for insects, ointment (KAR 203, IV, 13): the seed to be drunk with others, after drinking (too much) beer (Kü ii, iii, nat)

86. § 10, AG, ll. 257-278:

to both, and yet, at the same time, have its own distinctive meaning. Cassia tora will not help us here.

Now, the Arab would describe the poppy by the general word كاس "nose", and it may very well be that kasû, thus describing at least two flowers, as, presumably, a general word, and at the same time indicating a special flower, may well be similarly the rose, and also any similar globular flower.

Much in AM bears this out. Its "water" is constantly quoted, as distinct from other plants in AM, where, even if their "water" is used, it is but rarely. The adjectives applied to kasî (a plural, to which they are always plural) "dried", "crushed", etc., indicate a diversity of use, which is clearly applicable to roses and rose-petals. The small quantities of kasî-water prescribed perhaps indicate its value. Its use in AM is consistent with roses and rose-water.

It must not be forgotten that it is not Mesopotamic, which is the rose-growing country, but Persia. The rose, except in gardens in Mesop., is a rarity. The word hitherto normally connected with the rose in Assyrian is amurdinnu (= كاس, Jensen, KB, VI, 1, 516); كاس must, I believe, also be seen in "amaridu" (§ 9 AA, l. 227).

The rarity of the rose in Mesop. may perhaps account for the lack of a definite section devoted to the rose in these plant-lists: but it will be admitted that it would be an extraordinary thing if so beautiful and fragrant a flower, with so valuable an attar, in such frequent use in the East, should not be almost the commonest ingredient of the

medicines in AM. It must surely have been customary to import the dried flowers and the attar from Persia. But the temples of Mesop. appear to have made the rose-water (since kasî occurs


in an early temple list with grain, salt, ammi, lolium, etc. ①

PL. 30, 11 ff. is the nearest to a section dealing with it.

11. u eriš-ti kasī ŠAR
 u kal mar-hu
 u mur - ra
 u ZIR ŠIM. ŠIŠ
 u NE A
 ["MI]. KA. RU. RU
 ŠAB
 - gu
 - tu¹²⁾



u la - di - [ru]
 u su - su - . . .
 u GEŠTIN. [GIR. RA]
 u ZIR GEŠTIN. [GIR. RA]
 u PI. [PI]
 u ni - ka - ru - ru
 u sab - bi - lu : ku - ta - ru [m?]
 u pa - ti - lu - t[um]
 u su -
 u ka - di - še - ru
 u pu - tu
 u sa - me - nu
 ["ur - si - tum
 - tum

L. 11, kadiru (from § 9 E, L. 34) = also fenugreek, a strong-smelling plant (ib. 33). Erišti kasī must mean "Scent of the kasī" (erišu "smell", MA 106), and occurs in AM once (1, 3, 11). Cf. lipū erišti ša rubus, kit-[um] "Fat of perfume of excrement of kitt[um]" (24, 1, 6: cf. § 10, I).

Can kittum be kittum =  "cat", i.e. civet?

§ 9 E, L. 30 ff. give u erištum = "MUH. AŠ. AŠ", "NAM. TAB. BA. ŠAR" and "ŠIBIR. ŠAR", the former being also applied to a lettuce (Lactuca virrosa, L., ?), a strong-smelling plant, § 1 CT. L. 689. CT. xii, 34, 145, discussing DUK = erišu "smell",

gives "MUH. AŠ = i-riš-tu šam-mu, i.e. "smell drug".

L. 12, "kal mar-hu (doubtless  "anoint") i.e. "all unguents". "su-su-... perhaps connected with  "flour" but doubtful.

L. 13 "GEŠTIN. [GIR. RA], SA I

① Pinches, Amherst Tablets, No. 69, a reference which I owe to the kindness of Professor Langdon. For the connection with kasī in later times, cf. Clay, BE, X, No. 4, 7 ff: ^{am} GIM. GAR^{te} ki-ba-at-i-ni u^{am} ku-tal-la-a-tu i lu-in-na-šu ^{am} ŠIŠ gu^{am} salup^{am} ina ma-ši-hu rabū(u) GU. RAB danmu-tu "kasī ŠAR i bi-in-na-tu ar-ki ^{am} ilu^{am} HIL-šum-iddim iš-me-e-šu-na-ti salippi GU. RAB "kasī ŠAR it-taš-šu-nu-ti.

3413: M. 13, 2, 14, L. 15. The introduction of this word (= a-murdiannu, the rose, the Sum. meaning "thorn-vine") is conclusive that "eristi kasu šar" = "scent of the rose". It occurs in AM twice, hashallat 'GEŠTIN.GIR (72, 2, r. 5) and 'GEŠTIN.GIR (104, 1, 18). L. 14, that "myrrh" and "seed" (product?) of myrrh are equated with "rose" and "seed" of rose is due probably to the fragrance of the two. L. 15 "PI.[PI], cf. PL. 34, K. 4167, 13, 14.

In § 10 N it = a strong-smelling plant. L. 16 for ni-ka-ru-ru, are we to compare imilk karuru, § 10 I? L. 17, "šabbilu may be connected with the root of ~~šab~~ ~~šab~~, ear of corn, and then nard, either from its spices or its smell. L. 18, "patilutum], ~~šab~~, bramble-bush, which I have seen at Mosul, Jebel Judi, and Baqubah. The other words will presumably be similar thorny plants.

"Kasu occurs simply on PL. 27, K. 4162, 6-7.

EH 233 says that the ancients did not make attar proper. The "rose-oil" of Diosc. was a fatty oil in which roses had been steeped. This statement in the face of our frequent mē kasu (if this "rose-water" be the attar) is a little hard to reconcile.

Theophrastus (quoted ib. 230) gives many kinds of roses. Gerarde (1082) prescribes water of roses for the eyes, and an infusion to make the belly loose. In India the buds are cephalic, cardiac, tonic and aperient; ext., the petals are astringent; the stamens are thought to be hot, dry, and astringent.

Of R. centifolia, L., the petals are mildly laxative (IMP 2, 226). The oil or attar is used to disguise the unpleasant odour of certain ext. applications (ib.). For the "dried roses" (cf. AM), cf. Diosc. I, 130, where he prescribes the liquor of dried roses cooked in wine for pains in the head, eyes, gums, Rectum, uterus, etc.

§ 10 AG, U. 257-278: AH, U. 279-286.

The method of making attar in Roumelia nowadays is to gather the flowers before sunrise, put from 25 to 50 lbs in a copper still, and then return the first runnings to the still. The second is kept at not less than 60° F, for a day or two, by which time most of the oil will have risen to the surface (FH. 235).

The evidence all appears to point to *kasû* being "roses". The rarity of *kasû* in the lists (which naturally describe Mesopotamian plants rather than foreign ones), the peculiarity that this plant which occurs so rarely in the lists should be so common in AM, the frequency of "*kasû*-water" (i.e. "rose-water") in AM, the very phrase "*eristi kasû*" "rose-perfume" as we should use it, are cumulative evidence. Hence vanishes "*Cassia*-water" to be replaced by "*rose*-water." I can, however find no satisfactory Semitic equivalent.

Kasû, however, appears to mean both "rose" and in a more general way, "flower" of a rose-shape or colour.

§ 10 AH, U. 279-286. *IMHUR-PANI* ("šī, šī)
(114) a "*heliotrope*", **MARIGOLD*, **Calendula officinalis*, L., (less probably *Heliotropaeum Europaeum*, Benth., barely possibly *Chrysanthemum segetum*, L.).

IMHUR-AŠRA ("šī.MAN(68)) probably a plant similar to the above.

TARIMUŠ (62) **LUPIN*, *Lupinus termis*, Forsk.

ARARIANU (1) see p. 276.

§ 9 AH also seems to be an amalgamation like § 9 AG. *Hulamesu* (akin to "*halamesu*", § 9 V, 187, "mustard?") occurs in a tree-list ("*MEŠ.KI.IN.DIR*(?) = *mēsu* and *hulamesu*", M. 13, 2, 21, U. 30-31) where it may have been

① *Maqlû* V, 34, kima "*kasû* *likusuši* *kišpu-ša* connects it punningly with *kasû* "to bind"

90. 10, AM, U. 279-286
 wrongly included owing to the similarity of the last two syllables with *mēsu*. Again, ^uImhur-pani ša ekli and ^uImhur-ašrâ ša ekli are two distinct flowers, while kan šalali refers to none of these.

To Ebeling (Archiv XIII, 136, n.³) is the credit of the correct reading for ^ušl.šl and ^ušl.MAN. They occur spelt out in AM ^uTAR.MUŠ ^uim-hur-šl ^uim-hur-aš-ra (42, 5, 6); (^u)im-hur-šl (alone, 13, 7, 6; 59, 1, 30): (im-hur-aš-ra, pl. 27, K. 8827, I, 2). As ^uTAR.MUŠ is a frequent concomitant with them I add it here.

^ušl.šl is used with ^ušl.MAN 47 tt. out of its 113 occurrences: both are often mentioned with ^uTAR.MUŠ. In the following list a = ^ušl.šl, b = ^ušl.MAN, and c = ^uTAR.MUŠ.

EXT. — Anoint a: 16, 4, 13: 29, 1, 4, 5: 52, 4, 4: 55, 2, 4: 64, 1, 22: 87, 1, 6: 92, 4, 11: 96, 4, 4: ~~92, 1, 4~~: 29, 1, 4: 92, 1, 4: 96, 4, 4: (alone) 52, 5, 12. c: 29, 1, 5: 52, 5, 12 (alone): 92, 1, 4: 95, 2, 10: 97, 4, 14.

— Anoint scorpion sting a; alone 91, 1, 12: PL. 23, K. 9283, 15: with 2 others including c 91, 1, 8.

— Apply head, a: 4, 2, 3 (wash): 5, 2, 7: 6, 5, 5 (wash). b: 4, 2, 3 (?). c: 4, 2, 3.

— Apply ears, a: b: c: 33, 1, 24.

— Apply eyes, a: 13, 7, 6: 14, 3, 4: 17, 1, 4 (alone). b: 14, 3, 4: c 8, 1, 32.

— Apply KA ŠI B. ŠI. DA (mouth or toothache), a: 23, 2, 8. and 78, 1, 20 (both with anemone only): 78, 1, 12.

— For bu² šanu (foul breath), c: 23, 1, 7.

— Apply anus, b: 53, 9, 10:

— Anoint, for hand of ghost, a, b: 94, 2, 14.

— Apply (?) for KU. GI. G, a, b: 40, 7, 20: a, c: 40, 7, 16.

INT., Drink b: - alone, jaundice. Kü III, III, 15.

— for snake-bite, a: alone 92, 7, 8.

- for MA : a : alone, Kü i. ii, 9.
- for TUP^{pl} : a : b : c : KAR 203, IV, 52 (a), 53 (b) 54 (c).
- for stomach, a : alone, Kü ii, 1, 17.
- Drink, with others : a : 29, 5, 10 : 57, 5, 10 : 60, 1, 19 : 87, 1, 5, 10 : 88, 3, 4 : 90, 1, 17 : 93, 2, 12 : 97, 6, 2 : b : 29, 5, 10 : 57, 5, 11 : 87, 1, 11 : 89, 1, 1 : 97, 6, 2 : c : 29, 5, 10 : 57, 5, 10 : 87, 1, 5, 10 : 89, 1, 1 : 97, 6, 2.
- for stomach, a : 39, 1, 42 : 42, 5, 6 : 43, 6, 2 : 57, 5, 10 : Kü, 1, 1, 32. b : 39, 1, 42 : 42, 5, 6 : 43, 6, 2 : c : 39, 1, 42 : 42, 5, 6 : 48, 4, 9.
- for dyspnoea : a : 59, 1, 15, 26, 30 (alone), 33, 35 : 60, 1, 9, 13 (?) : KAR 203, 25 (alone) : b : 59, 1, 33, 35 : 60, 1, 9, 13 (?). c : 59, 1, 33, 35.
- for menses : a : alone, KAR No 194, obv. 37.
- for hand of ghost : a : 76, 1, 8, 12, 15, 17, 20, 23, 24, 27 : (cf. 97, 6, 5 : 101, 4, 8). b : 76, 1, 8, 12, 16, 18, 24, 27 : cf. 97, 6, 5 ("šī. KI (!)).
- for ghost seizing, a : c : 14, 5, 3.
- Fumigate : a : b : c : 99, 3, 10.
- Uncertain method of use : Venereal (?), a : 32, 1, 12 : 66, 1, 11 : b : 32, 1, 12. Pain in kaš-lâti^{pl}, a (?) : b : 62, 6, 7. Mišitti a : b : 77, 2, 6 : Maška, a : 31, 1, 6. Umsati, b : c : 17, 5, 4.
- Quantity : $\frac{1}{3}$ ka, a : 60, 6, 13 : 7še, a, drink and introduce by anus, Kü i, 1, 32. 1 šu, c : 41, 1, IV, 26. ...šokel, c : 89, 4, 3.

An "Imhur-pani ša ekli and an "Imhur-ašrâ ša ekli exist (PL. 43, k. 4419, b, 8-9).

IDENTIFICATION — "Imhur-pani is far more common than the other two. All are used EXT, INT, and in fumigations. "Imhur-pani is used alone for scorpion stings, toothache, and int. for snake-bite, and as stomachic, and for menses, for which the other two have no power alone. It is obvious that they are less powerful and not

so acrid as "imhur-pani."

"Imhur-pani, ~~but~~ "It-Presents-the-Face" (as of one giving favourable and pleasant assent) is thus a very common plant with a "face" flower, with one of its kind growing in the fields. It probably represents that much-discussed plant, the $\eta\lambda\iota\omicron\tau\rho\omicron\nu\iota\omicron\nu$.

The Marigold, *Calendula*, seems to fit it very well. It is a peculiarity of the marigold to open its face during certain hours of the day: the flowers, the only parts used, are prescribed in P. 295 for sprains and bruises, and int. for amenorrhoea. In older medicine (FHS 301 ff), it is used for stings, bites, ear-trouble, sores, and ulcers, bilious disorders, menses. Gerarde (604) prescribes it for toothache.

Calendula officinalis, L., was seen at Masjid-i-Bardir: C. Persica, C.A.M., at Kalah Sherghat (Herz., OLZ, Beh. D; SH, 28). I well remember the marigolds in the Mosul gardens. Post (443) quotes C. *sinuata*, Boiss., C. *Palaeestina*, Boiss., C. *Persica*, C.A.M., etc. Doubtless "l. ša ekli" is C. *arvensis*, L. (also Post).

Pliny's "Heliotrope" (NH, xxii, 29) is very close to marigold, one of the old identifications with it. There are two species "tricoccum" and "helioscopium": the latter in decoction is purgative, a good gargle, with cummin disperses calculi, and plant and root thus prepared with the leaves and suet of a he-goat is good for gout. Helioscopium in wine or hydromel is an antidote against poison of snake or scorpion: the leaves are applied for convulsions, and the juice with oil of roses is for headache.

There is, however, another possibility, but one less likely. *Chrysanthemum segetum*, L., grows in Palestine ("enormous masses", FTP 10: cf. Post

437: also Ch. Myconis, L.: Ch. coronarium, L.: Ch. viscosum, Desf.): it has been supposed to be the Helichrysos of Pliny (NH. xvi, 55, note 61; xxi, 96), but Pliny says (loc. cit) that it grows in shrubberies (which looks more like the calendula officinalis) and is used as a diuretic and emmenagogue, and drunk also for stings of serpents, and for pains in the loins; externally for burns. The leaves stay the menstrual discharge. But the objection here is that there is nothing markedly "heliotropic" about it.

Possibly "imhur-asra" is one of the above: at all events, it is probably some similar flower, probably yellow (on the principle of the doctrine of signatures) since, like "imhur-pani, it is used for jaundice. Until asra is translated it is difficult to suggest anything. ①

"Tarmus" has long been identified with ~~جورج~~ "lupin", the Greek Λύπτος (Lupinus termis, Forsk). I was long sceptical about this, since the lupin is of little use in medicine, and also it seemed equally probable that the Arabic might have come from the Greek. But now that it seems obvious that the "tarmus" is a drug of little value, though of common use, and also since such plant-names as mandragora were certainly taken over by the Greeks from Babylonia, I am more inclined to agree. ②

① Heliotropaeum Europaeum, Benth., is less satisfactory, although it is used in India as an emetic, and for snake-bite, scorpion and bee stings. (IMP. II 683).

② Indeed, if we are to believe tradition, in the case of the lupin it is all the other way. Löw (394) quotes Chwolson (Altbabyl. Lit., 87, Anm.) that ~~لبنون~~ ("a kind of corn") was brought by an "old Babylonian king" from the land of the Ionians. This may account for its rarity in Syllabaries

94. § 10 AH, 279-286.

The lupin is prescribed by Pliny (NH xxii, 74) chiefly ext. against ulcers, etc., and in fomentations: a decoction of the root acts as diuretic.

§ 10 AH 2, L. 287. QI. ŠUL. ŠAR, KAN ŠALALI (28)

***Conium maculatum*, L.

(a) Simply (13), EXT., hands and feet (98, 3, 18), neck (14, 8, 5); rub feet (69, 2, 5); bind (79, 1, 12); wash (52, 5, 8; 98, 3, 3). (b) SEED (1), bind (95, 3, 5).

(c) ROOT (2), for simmati (92, 6, 2). (d) ŠE. RŪ (4), hands and feet (82, 2, 5), feet (74, 1 iii, 3). Drink (one of 32; 89, 1, 7). Fumigate (91, 1, 6). (e) JUICE (2) for swelling (73, 1, 12). (f) LEAF (1) (23, 4, ii 6).

IDENTIFICATION: A plant defined as "reed," fairly frequently used (seed, root, buds, juice, leaf). It may spring up on a wall (PL. 43, K4419, ii 10; cf. PL. 33, K. 4180, B, 9), i.e., it can grow in S. Babylonia on a mud-wall; or in a field in a town (Boissier DA 76, 31); a special one grows in Malcan (Arabia) (PL. 46, 79-7. d, 21, 4).

That it can grow on a wall or in a field shows at once that it is not a water plant. Moreover if it had been allied to *urbatu*, it would surely have been included in § 9, B. We must therefore find some plant to which the definition *kanū* will apply, often used ext., but rarely drunk, and not a water plant.

The best suggestion I can offer is the hemlock (*Conium maculatum*, L.). Water-hemlock (*Cicuta virosa*, L.) or Hemlock water-dropwort (*Oenanthe crocata*, L.) are ruled out on account of their connection with water (see "ankinute," next section). Hemlock is common on waste ground, with a stalk hollow and jointed (see *Wk*, 549) "jointed like a reed" (Pliny NH, xv, 95).

"The most powerful hemlock is that grown at Susa"
 I do not remember having seen it in Mesop., but it is common in Palestine (Post, 335). Pliny gives the use of hemlock as ext., to cool stomach, check defluxions, and in eye-salves. Conium maculatum, with care, can be used internally (BMP No 118) as sedative and anti-spasmodic. Phytologically šalali might be compared to شاللي "a stain" (not common), (Lane, 1591: Freytag, Dict. II, 445), i.e., maculatum.

§ 10 AH, 3 "ANKINUTE, "ANKINUDI (13).

: ** WATER-DROPWORT, Oenanthe,

(or similar poisonous umbellifer of the ditches), perhaps Oe. pimpinelloides, L.

K. 10126 + 79-7-8, 350 (PL. 39), S. 1328 (PL. 32), and 82-5-22, 1777, (PL. 27) admit of the following text being made up (see M. 204, 3, 33):

| | |
|------------------------------------|-------------------|
| "GI. GIL. GI. SUK | "an-ki-nu-be |
| [u] --- A. GI. SUK | " " |
| [u] ... GAR - UN. NA | " " |
| "GI. GIL. GIŠ. GI. SUK | " " |
| "bu-la-lu | " ,, ina šu-ba-ri |
| "a-a-am ^① kuput šadi(i) | " ,, ki-ma lam-me |

This must = illur buginni "(reed)-flower of the pool". "Bulalu is used of irrû "opium" in § 10, G1 (also in Šubari); and there I have explained it as "confusing (the senses)", i.e., a stupefying drug, narcotic. The last word "šeentil of Kuput of the mountains" might perhaps contain ~~š~~ ~~en~~ ~~ti~~ ~~l~~ ~~of~~ ~~ku~~ ~~pu~~ ~~t~~ ~~of~~ ~~the~~ ~~mo~~ ~~un~~ ~~t~~ ~~ai~~ ~~ns~~ ~~?~~ but it is unlikely. In its equivalence "ankinute like lamme" the latter word must surely be ~~an~~ ~~ki~~ ~~nu~~ ~~be~~ "eloquent", ~~ku~~ ~~pu~~ ~~t~~ ~~š~~ ~~adi~~ ~~(i)~~ "to stammer", i.e. a narcotic poison which causes incoherent

① Sprengel, however, Diosc. II 609, emends this.
 ② za-a-am appears to be correct in the duplicate.

speech^①

In AM it is used, always simply: EXT., for hands and feet (98, 3, 3): bind (45, 1, 1): anoint (52, 4, 5: 74, 1, iii 7: 75, 1, IV, 4: 94, 2, ii 12: 95, 2, ii 9), temples (104, 1, 21): "when a man goes to his wife and ... to another woman goes ..." (66, 1, 9): INT., for ghost seizing (14, 5, 4), dyspnoea (59, 1, 37).

We have thus to identify a reed- or cane-like water-plant with a narcotic poison, producing delirium, rarely used internally, more often as an anodyne (?) externally, and in some venereal question. Everything would point to the water-hemlock, *Cicuta virosa*, L., or similar water-plant, except that *C. virosa* does not occur in the East (Lew, 429, and it is wanting in Post).

But four species of *Oenanthe* occur in Syria (Post, 355): *angulosa*, Griseb.: *media*, Griseb.: *pimpinelloides*, L.: *prolifera*, L. (the second and fourth being in FTP 127). Most of the species ^{of *Oenanthe*, including} *Oe. crocata*, which, however does not occur in Turkey (BMP, No. 124) found in Great Britain and the United States are poisonous, but some are innocuous (BMP ib.): GM 210 quotes seven species, of which it says that all plants of this kind are poisonous, although it is said that of *Oe. pimpinelloides* the roots are eaten.

Oe. crocata is similar in many ways to the water-hemlock (VK 549, 94), the latter being a tall plant with a hollow stem, frequenting ditches, the most poisonous of the umbellifers, producing vomiting, convulsions, stupor, death. In smaller doses the water-hemlock may be used internally; and ext. the Greeks and Arabs used it for tumours etc. (VK 549: NPP 93). Under conium Diosc. (IV, 79) speaks of a poisonous kind of conium or *cicuta*, an anodyne. Of the *Oenanthe* Pliny (NH XXIII, 5) says the ash is used in eye-salves.

Oe. pimpinelloides appears to have been the οὐδύθη of Theophrastus and Diosc. (PC XVI, 403).

① Unless it is *Lamme*, see § 47.

§ 10, A. Q., ll. 342-347.

eye (PC VI, 323), containing two kinds of colouring matter, yellow and red, but the latter is the only one used.

ḫy is cultivated in Assyria (Ainsworth, 26).

Tiglath-Pileser II obtained the "LAL" from mar-duk-bal-iddina of S. Babylonia, with "šī-a-nu" (I R, 67, 23). The Semitic for this ^{word} ~~besides ispana~~, is [u]-ku(?) + la-lum (see § 6, l. 9). In AM "LAL" occurs 10tt: (a) simply (9) EXT., anoint (52, 3, 9, with šamma "LAL... : 93, 1, 2; 96, 4, 6; 97, 4, 15), għasr (93, 1, 7). INT., drink (87, 5, 15). Fumigate (91, 1, 9).

(b) šamma "LAL" (1) see (a).

PL. 27, K. 4162, 4-5, places it between [hīl] balti-adi and "kašī".

○

§ 10, AS, ll. 353-354. "KA.A.AB.BA, IMBŪ TAMTIM (47)

Fucus(?), SEAWEED(?), KELP(?).

Use simply: EXT., anoint (29, 1, 3; 31, 4, 3; 52, 4, 6; 87, 1, 6; 92, 4, 5; 93, 1, 2; 94, 2, ii 12; 97, 4, 3, 18; 104, 1, 21), scorpion-sting (91, 1, 6), anoint or bind "hand of għasr" (93, 1, 7, 15; 94, 2, ii 18); bind (98, 3, 10) temples (102, 1, 61; 104, 1, 15); apply (footsoles, itching? 75, 1, iv 25), neck (4, 6, 7); temples (4, 6, 4; 20, 1, 14, 15), fingers (14, 5, 2), eyes (ext.? 14, 3, 3). Locally to uterus (alone, KAR 194, IV, 15). Fumigate (4, 6, 2; 91, 1, 9, 2, 2; 92, 4, 7, 2; 99, 3, 11), ears (33, 1, 33, 36). INT., drink dyspnoea (59, 1, 16). Quantities, gur (can hardly be oil, kü ii, iii, 70), [2 shekels], (62, 1, iv 2).

Lit. "sprout of the sea" (𐎶𐎺𐎠, like imtubu, 523, HWB 442); defined as "drug from the middle of the sea": "drug from the broad sea" (ll. 333, 335). I can see no alternative but fucus, algae, "sea-weed", and Sayce was therefore right (PK ii 205). (cf PL. 34, K. 4169, 5 "drug of the sea").

Almost all the common sea-weeds may be used for 'kelp' (for glass or soap). They are cut from the rocks, partially dried, and then put into a hole

in the sand, where they are burnt, more being added as the weed is consumed. The result is a soda mixed with many impurities (VK. 187). The value of such a drug can hardly have been overlooked in Babylonia. Iodine is one of its products, an antiseptic used ext. as a solution, ointment, etc., or int. in chronic rheumatism (P. 666). Formerly "burnt sponge" was administered, doubtless for its iodine (VK 186).

§ 10 AT, LL 358-365.
L., "BINJ", HEMP.

○
"AZALLÛ (28), Cannabis sativa,

(a) Simply (18): EXT., bind temples (102, 1, 39), anoint (52, 4 r. 4 : 73, 1 ii 8 : 94, 2 ii 12): wash (70, 3, 4). INT., drink (41, 2, 7 : 87, 5, 15 (?): 89, 1, 5 : 97, 2, 4 (?), for "hand of ghost" (76, 1, 21). Fumigate (91, 1, 10 : 99, 3 r. 4). Quantity, $\frac{1}{2}$ bur (91, 6, 2). (b) SEED (7), drink 3 še for neuralgia (?) (90, 1 r. 20): mixed with others drink in beer for female ailment (KAR 194, IV, 1). (c) JUICE (1) (53, 4, 20).

IDENTIFICATION: L. 359 = "a drug for nissati, (sorrow, grief), i.e. an intoxicant to cheer the spirits. "Azallû must come from $\sqrt{\text{to spin}}$, i.e., the plant used in spinning. "Gurgurru, cf. MA 232, GIŠ.MA.GUR.GUR = ŠU-rum (= gurgur-rum), cf. $\sqrt{\text{to twist}}$ in Hitpo. used of a twisting(?) dust-devil, or $\sqrt{\text{to wind}}$ "a cable", $\sqrt{\text{to wind}}$ (modern) "to wind a stein", i.e., gurgurru is a twisted ship's cable. In "GAN. 21. TAP.NU, the GAN. 21 may well be the same as the GAN. 21 = "opium" (§ 10, I): TAR.NU (cf. SA 1, 2254, 2257) must be some form of burrumu, apparently originally "to weave" (as well as its more usual significance of variegation), e.g., Šurpu

① Rather than $\sqrt{\text{to drag}}$. Glas ...-ga-ru-u = "a-zal-la-[u] any connection here (PL. 37, 81-2.4, 269, 7)?

V-VI, 115, mār am iṣpari ana subati la ubarramu
 "(as) no weaver shall weave (this wool) into a garment."

The evidence thus indicates a plant prescribed in AM in very small doses, used in spinning and rope-making, and at the same time a drug used to dispel depression of spirits. Obviously it is none other than hemp, *Cannabis sativa*, L. (in Persia, BFO IV, 1152). In that case cf for "gur-gurru" 𐎠𐎢𐎽𐎢𐎺 *Cannabis sativa* (Löw 324), a word which may well have been taken over from Assyria. GAN. 21, too, might conceivably be connected with Skt. *gana* = *binj*.

Of the other words "HAR.GUD" must be the same as HAR.GUD = *imrū* or *ballu* "fodder." "Harmum" (presumably Semitic) may be connected with 𐎠𐎢𐎽 "net" (rather than "the forbidden thing"); cf Pliny (NH XIX, 56) "the best hemp is that of Alabanda which is used more particularly for making hunting-nets". L. 364 *bur...* must surely be some form of *burrumu* "weave".

Hdt (IV, 74, 75) says that the Thracians made garments from hemp, and used the seeds on red-hot stones for intoxication: "The Scythians transported with the vapour, shout aloud" (cf also I, 202). (It can hardly be the ἀγλαῖα or ἐφέλια used for recurrent fevers, quoted Pauly-Wissowa, Realencycl. VI, 207). A Chinese herbal (c. 5th cent.) notices two kinds: *Susruta* on Hindu medicine (B.c.?) mentions *B'hanga* as a remedy (FH 491 ff.).

P. 315 gives *Cannabis* as sedative, anodyne, used in menorrhagia and dysmenorrhoea.

A word 𐎠𐎢𐎽𐎢𐎺 *ku-un-na-pu* occurs on a tablet dated Nebuchad. 31, which Scheil thinks (RA XVIII, 97) = *Cannabis*.

§ 10, AU, U. 364-375. ⁴ PUKUTTU (II), ⁴ HAHIN (I), Carduus, THIS. LE.

(a) Simply (5), for hiniketi (60, 1, 4, 13, 15): one of 14 for hiniketi [drink] (60, 1, 7), and as one of 7 for hiniketi (89, 4, 11). Some part applied with mandrake root, etc. to a tooth (28, 1, 5). (b) SEED (4): bind on (15, 3, 5): drink with others (59, 1, 33) or about 40 others (59, 1, 39) for dyspnoea.

IDENTIFICATION. MA 823 and HWB 535 translate this word "thorns" or "thornbush" or similar ^① which misses the most striking clue provided by III R 43, IV, 5, quoted by both authorities: ilu Adad lameratišu limilâ pukuttu "May Adad fill his fields with pukuttu". Adad is god of the wind, and what he is invoked to carry to fill the enemy's fields is obviously Thistle-down. Cf. III R, 41, ii 33 kimu ilu Nisaba pukuttu lihnuti "instead of corn may thistles spring up". I have myself seen the fields at Bakubat full of tall thistles.

sikurrat ekli, sikur ekli "lock of the field", ummat ekli, ummat "host of the field", "host," aptly fit the serrated ranks of deep-rooted thistles.

Hahin occurs with seed of as, fox-grape, hyoscyamus, etc. (60, 1, 24). GIR.HA.AH and UL.HA.AH refer (by GIR and UL) to the prickles, and doubtless these three last names have something in common with ḫitt "thistle". Ix CTXVIII, 4, VIII-VII, 2 pukuttu = gabgabū.

Pukdatu allows us to settle the third radical as d. glē.gilē, perhaps "flower of wood", referring to its downy white head. ḫami subati? "plant for clothes(?)", is so doubtful that it is hardly worth while quoting Dipsacus fullonum, Mill., used for combing and dressing cloth. (AM. 238, FHS 512). Ascherson (Löw 267) says that this does not occur in Arab lands.

Carduus Marianus, L., Silybum Marianum, Gaertn., grows in Syria, Babylon, and Persia (BFO II, 56; Löw 293). The seeds were formerly thought to cure

Hydrophobia, and, in Germany, jaundice (a tincture from the root and seeds) (FHS 510). *C. benedictus* (ib. 510) stimulates the liver; *Carlina vulgaris* (511) is diaphoretic and purgative. In AM its use in toothache is probably to provide thistle-down instead of wool to bind the medicaments in a coherent mass.

O

10 AV, ll. 376-382. "KUR. Kijje, (SAMMI LIBBI) (87)

* *Hyoseyamus*.

Simply, only. EXT., anoint (16, 4, 13; 87, 1 v. 6), "hand of ghost" (94, 2 ii 14: cf. 76, 1, 2: 97, 6, 5); ašû ("pain", 64, 1, 22: cf. KAR 203, 64 = šam ašû): bind (98, 3, 11, one of 23): apply anus (94, 2 ii 7), eyes (10, 3, 25: 13, 3, 7: 19, 6, 5, 7, 10); put on neck in wool (14, 3, 10); in ears in wool (33, 1, 24): for foul breath (26, 6, 6): bind on mouth and nose (28, 8, 8); KA.DIB. BI.DA (78, 1, 12): much illatu in mouth (31, 4, 12). INT., chew (27, 2, 8), drink (60, 1, 7: 83, 4, 7: 87, 5, 15: 89, 1, 8: 99, 5, 5), for "hand of ghost" (76, 1, 8, 10, 20, 27), stomachic (39, 1, 42: 42, 5, 6: cf. 39, 1, 36: 40, 1, 49), urinary (66, 7, 8), dyspnoea (59, 1, 35): alone in beer for difficult labour (67, 1, 14, 21): alone in beer followed by purging (Kü ii, 1, 48): uncertain method, alone in kidney-fat (45, 2, 9). Fumigate (57, 3, 9: 91, 1, 13: 99, 3, 5, 10, 8, 8: 101, 3, 11, 17), temples (20, 1, 13), head. [2, 1, 18, 22]. Used in some way for kablitu (60, 1, 25), cough (80, 1, 20), and as allan (43, 1, 7). Quantities, $\frac{1}{2}$ ka (86, 3, 3), $\frac{1}{2}$ shekel (41, 1 iv 15), 15 shekels in enema (Kü iii, ii, 21).

LL. 376, 377, especially "the plant of the mountains". "At-ia(?) - uncertain. L. 379 "Heart-plant", in this case not a stomachic, but as "uznâ (l. 278) and "uzun libbi (l. 380) show, a drug for the mind or affecting the wits, uznâ being often used this way. So important is the "Heart-plant" in medicine, that a poem about it is extant (Kü 9): - "The Heart-plant sprang up in Makan and the Moon-god ...; the Sun-god brought it down from the mountains and [planted it

in?] the earth; its root filled the earth, its horns stretched to heaven.... It seized on the heart (mind) of the Moon-god in the clouds, it seized on the heart of the ox in the stall, [it seized on the heart of the goat] in the fold" and so on, until ["it seized on the heart of N.], son of N." (i.e. the patient). In my Devils and Evil Spirits, II, xv, I identified the "Heart-plant" with the *Hyoscyamus muticus*, L., which I had seen growing in the Sinaitic Peninsula. Makan appears to mean Arabia or Sinai; or, at all events, a latitude in which this plant is described as growing. Its high shoots are doubtless the "horns" of the poem. I see no reason to alter this view, except that "KUR.KUR" is probably any form of *hyoscyamus*.

Its use for fumigation in AM survives in a parallel use of the berries of *Withania somnifera*, L., for fumigating the teeth in toothache; the berries, I was told, (like "KUR.KUR") had been brought down from the mountains" (PSBA 1906, 78; Sem. Mag. XLIV).

H. muticus, L., occurs in Malatia, S. Persia, Kerman (BFO IV, 293; Post, 570): known as "mountain hemp" in Baluchistan (IMP II, 919). *H. niger*, L. (BFO, IV, 294) in N. Persia: *H. aureus*, L., at Safa, called سفا : (Von Opp. II, 383): *H. pusillus* (in Post, ib.): *H. reticulatus*, L. (Katak Sherghat, Herz. OZ, Beih. II).

The evidence of AM points to an anodyne, ext. and int., a laxative, with effect on saliva, in difficult breathing, urinary trouble, frequently used for eyes. This must indicate *Hyoscyamus*, or less probably *Belladonna*.

In P 644, *Hyoscyamus niger*, L. (leaves, branches, tops) is given as similar to *Belladonna* but milder, a sedative, anti-spasmodic, used in insomnia; to diminish pain, and allay irritability of the bladder, to prevent griping of purgatives, (while it increases peristaltic action): for visceral neuralgias and asthma:

§ 10 AV, ll. 376-382; 10 AV, 2; 10 AW, ll. 389-391, 105.
to prevent convulsions; PC XII, 410 says that it causes dilata-
tion of the pupil.

P. 22's describes *Atropa Belladonna*, L., (leaves, branches,
root) as anodyne, to check saliva, painful spasm of the
bladder; for dysmenorrhoea; asthma, and acute bronchitis;
for epilepsy; habitual constipation; nocturnal incontinence
of urine. Its use for eyes is well known.

Both plants have a powerful, unpleasant smell, which
is doubtless referred to in ll. 381, 382, "PI.PI.NU.NU (or
nu-nu, "fishy"?) and "PI.PI.PI.TAK (see § 10 M). But while
Hyoscyamus is frequently used in SM, *Belladonna* ap-
pears to be entirely absent, except in a vocabulary (II, 719).
Both are deadly poisons if used improperly, and produce
delirium. VK 551 says that the Greeks probably knew
of the *Belladonna*, but their descriptions are not minute
enough for us to identify it. The *Hyoscyamus* was
prescribed in mild doses by Dioscorides; Pliny (NH XXV
17) says the seed, root, and juice are all used, and that
the leaves will affect the mind. FHS (sub voce) says
that a poultice of the leaves is used in neuralgia,
and even that a henbane necklace is hung round
the neck for convulsions (cf. AM, above).

§ 10 AV 2, "KUSIBU, "KUIATU, see Index.

§ 10 AW, ll. 389-391 "SASUMTU, "SASUNTU, "SASUTU (9).
(a) Simply, *passim*; described as "ša-mi TAB.UD.DA
"a drug for taking away a bruise" (mišsu), or blister
(šamatu); drink and apply alone (KAR, 203, 49): cf.
PL. 36, 73-7-8, 22, 2. Drink and apply (88, 279). EXT.
Apply in oil for insects (alone, KAR, 203, IV, 19); bind on
head (2, 1, 20). Use for "hand of ghost" (97, 6, 12, 13, 14):
described as a "drug for ašī" (pain, KAR 203, IV, 3).
Fumigate (78, 10, 2; 99, 3, 14). (b) LEAF(?) in salve,
(88, 2, 7). (c) mentioned Johns ADD, No 1042, 5.

176 § 10 AW, ll. 389-391: 10 AX, ll. 392-394: 10 BA, ll. 404-407

§ 9, BX gives as variants "kak-[ka-da-nu?]", and "a-su-si-
[im?]-tu imeri^①. § 9 CS gives "agusimtu and "supalu as
equivalents for "KI.AN.ŠIS.KI. Pindamûn is the Arab.
for Sambucus Ebulus, L., (the Elder), Lebanon to Amanus
(Post 878), but although it is certainly used in medicine, esp.
ext. for bruises (FHS sub "bruites"), abscesses, etc, and int.
as a cooling drink as stimulant and sudorific (BMP 138)
the philological comparison is not attractive.

Cf. the woman's name "𐎧𐎺𐎠𐎺

§ 10 AX, ll. 392-394. "PIKU(?), "PINDÛ(?)

Doubtful, obscure. G13. GUG.DIR = pi-en-du-u
(M.'13, 2, 27, l. 85). "pi-in-sur.. occurs AM 44, l. ii 15.

§ 10 BA, ll. 404-407. i š A.LUM, (i)(u) šIHU(28),

Artemisia, WORMWOOD

Sihu is variable in its determinatives ' or 'u, and hence
(since these are interchangeable)^② we need not concern our-
selves with 'sihu as a variant of i šihu.^③

Simply, only: bind (70, 7, 5: 74, 1, 13), swellings (73, 1, 13,
31, prob. ii 4): anoint (96, 1, 14) "hand of ghost" (94, 2 ii 16),
and, presumed ext., eyes (8, 1, 4) cough (50, 1, 7), mišilti (79,
1, 8, 20: 82, 2 r. 10), constriction of lungs (53, 4, 16), "hand of
ghost" (? 33, 1, 3). For washing (48, 5, 4: 52, 5, 5; prob.
49, 1 ii 7). Drink and anoint (88, 2 r. 9): in one of maš-
kiati (41, 1 IV 3). Fumigate (99, 3, 6, 14). Quantity, 5 she-
kels (84, 1 ii 3). A bitku is prescribed (41, 1 IV, 16).

S. 1701 (RA 1920, 181, ii, 3) gives 'si-i-[hu].^④

It is the ~~Kum~~ Artemisia Judaica, Worm-

① Meissner would read this imeru as tum, as also the dup. K.
4417, pl. 37. I have examined both again, and the present
text is as I have given it in CT. XIV. There is, however,
barely room for im, but the ut (= tu) appears certain.
Note § 9 CS, l. 660 "zir KU.LAK = "zir kak-ka-da-nu.
② Cf. 74, 1, 13: 73, 1, 13. ③ Distinct from šihu, M.'13, 2, ii 36.

wood (Fonahn, OZ, 1907, 640), which occurs in Arabia Petraea (BFO III, 371 : cf. Löw, 78 f. : FTP 15). The *Ar* شيبخ = *A. Herba-alba*, Asso. (Post 440). Xenophon mentions a plain full of absinthium about 9 stages below Thapsacus (Anab. I, V)

An equivalent appears to be "šamširu" (§ 9 BA, l. 380, note) which must obviously be ← *šmš (← *šmš) *A. vulgaris*, L. (Löw 82, seen in Mesop., BFO I 371), thus proving the meaning of *šihu*.

šihu, *arganu* and *bariratu* are frequently used together, which is a clue to these latter. ll. 404-409 "š margulu and "margunu appear to be given as equivalents, the latter perhaps connected with *arganu*, ז.י. "smell sweet".

Prescribed by the Rabbis for sickness of head and to kill fleas (Löw, lb.). IMP I, 702 says that *A. persica*, Boiss. (vernacular *šikh*) is used in India as a tonic, febrifuge and vermifuge.

§ 10 BB, ll. 408-410.
(see § 18). ①

"MARGANU and "BARIRATU

§ 10 BC, ll. 411-414 "SUADU (see § 19).

§ 10 BE, ll. 422-427. "ENIRRU
Uncertain. Tubaku, cf. marratu-bird = iššur tubaki (Pl. 4, a 38 and 6, 15), the shrub in which it is to be found.

① Following the *bariratu* section in the note to § 9 BC comes "naniku = "kalû, in the common speech (?), a thorn with none to gather (the fruit), its fruit like *tarmanu* (a precious stone = ŠAG. GIL. MUT, MA 1194).

108. § 10, SF, ll. 428-436; 10 BK, ll. 437-444; 10 BK, ll. 477-503

§ 10, SF, ll. 428-436, "KANKADU, KANKADU."

(a) Simply, passim; EXT., bind (15, 3, 16: 79, 1, 21), swelling (73, 1, 29; 108, 3, 3); ointment (29, 2, 5); for feet (70, 7 ii 4), ear (36, 1, 3), beard or cheek (26, 8, 13) eyes (8, 1, 17; 11, 2, 38; KAR 203, IV, 56, alone). INT., drink (stomach, one of seven, 48, 4 r. 10). Drink and apply for PA, GI, MIR, doubtless a wound or a bruise (PL, 23, K. 9283, 12). (b) SEED (2). EXT. (16, 4, 2), feet (74, 1, iii, 2).

It occurs (Langdon, RA 1916, 31) "if in a field in the middle of a city kankadu appears" where it is equated with "kudkuddu. This may be the ~~same~~ of SM I, 562, 9, "pull out the k, which contained a medicine for the eyes, and take the great vein which is in and that hath moisture in it, and lay it on the [aching] tooth". (Cf also Boissier, Chor., ii, 2).

The similarity of γιγγιδιον (Diosc. I, 166; Pliny, NH ii) must not be overlooked. The latter says it grows in Syria, like the σταφυλιος, a kind of carrot or parsnip, beneficial to the stomach; the former says it is diuretic. The carrot is certainly used in old medicine for sores and ulcers (FHS 81); Culpeper (56) says that wild carrots provoke urine and menses. Daucus Carota, L., is used ext. in India for burns and ulcers (IMPI, 635). Γιγγιδιον has been taken over in our Daucus Gingidium, a wild carrot (said by Löw, 427, not to grow in the East). Löw 38 makes γιγγιδιον = Lepidium latifolium, L.

If "kankadu" be the wild carrot, there might be some reason to see horse-radish, armorica, in kudkuddu, ~~the same~~, the Syrian being obviously a strong counter-irritant. Unfortunately, Post does not give it as existing in Palestine.

§ 10 BK, ll. 437-444; § BK, ll. 477-503.

"KAR. 196, azupiranu (18), crocus sativus, L., SAFFRON.

(§ 9 E, l. 39): "KURKANŪ (29), Curcuma longa, L., TURMERIC,

(§ 9 B K, ll. 477-503): "LID. GAB, ŠAPRU (25), KAMANTU,

(7) Rhus coriaria, L., SUMACH.

I have included all these plants here because of certain similarities. PL 42, Am. 328. r. 2-4, defines four drugs

["NU.] UH. HA, "kurkanū, ["] ħaidap-pānu and "azupirānu as $\text{ID} \text{II} \text{P}^{\text{L}} \text{ŠI} + \text{DUP} \text{P}^{\text{L}}$, i.e., for staining hands, according to the custom in the Near East to-day (a red, orange, or yellow colour). "Kurkanū,

long identified with $\text{𒌷} \text{𒌆} \text{𒌵}$ (Stueken, Astraln. I, 5) "saffron" must thus be distinguished from "azupirānu, i.e. زعفران^①

"saffron". Ll. 437-444 show also that "LID. GAB = "šapru (and in § 9 B K, l. 485, cf. 491 = "kurkanū), so that we must see ~~𒌷~~ "yellow" in šapru and include the plant here.

Only two substances can be considered possible equivalents for "azupirānu and "kurkanū: (1) Saffron, the dried stigmas and tops of the saffron crocus, Crocus sativus, L., used to-day for giving colour (P. 457); (2) Turmeric, Curcuma longa, of which only the root is used, to-day chiefly for dyeing.

There is little difficulty in deciding. "Azupirānu = $\text{𒌷} \text{𒌆} \text{𒌵}$, and is the substance from "azupiru (PL 35, K. 4130A, 27; cf. MB 32), amplified by "yellow asupiru" (KAR 203, 26, 47). It has a doublet azupiranitu (§ 9 E, l. 39; Scheil, RT xxxiv, 11) and is erroneously spelt azukirana (33, 3, 7; dup of 76, 4, 10, correctly written), azukiraxi (Kü II, ii, 9). The Sumerian name

"HAR. ŠAG. ŠAR = "plant of the mountains". "ŠE. MULU. HAR. ŠAG. ŠAR (§ 9 E, note) (= "powder(?) of the azupiru") and ŠIBIR H. (ib. l. 39), must be the saffron powder itself.

In AM azupirānu is used (2) simply, passim: EXT. biad (70, 7, 5), oint (95, 2 ii 9), for ghost (33, 3, 7, dup.

^① Meissner (ZA VI, 294) connected it with $\text{𒌷} \text{𒌆} \text{𒌵}$, which Zimmern (AF 56) continued. But see § 10 A Q.

of 96, 4, 10: cf. 100, 2, 8): apply anus: 2, 2, 7). Enema (56, 1, r. 8: 95, 2, 10, ii 4). Fumigate (99, 3, 14, r. 4). INT., drink and anoint (88, 2, 8). "Yellow asupiru" drink for dyspnoea (KAR 203, 26), and anoint for ...-bati (ib. 47). Quantity, 10 shekels (57, 3, 7: cf. 42, 2, r. 7). (c) LEAF, anoint (88, 2, 7) (e) [seed of "azukirani, Kü ii, ii, 9]. (d) "1 šu of root of "HAR. ŠAG. ŠAR (41, 1 iv, 27).

"Kurkanû, on the other hand is used in AM thus:

(a) Simply, passim: EXT., anoint (97, 4, 17): for eyes (12, e, 8), mouth (28, 4, 5), hands and feet (98, 3, 18): alone for insects anoint in oil (KAR 203, iv, 18). INT., drink (83, 1, 11), for dyspnoea (59, 1, 36, cf. 44), jaundice (alone Kü. iii iii, 10). Fumigate (80, 6, 3: 91, 1 r. 2: 92, 4, r. 2: 98, 1, 4), ears (38, 1, 3) nose (64, 1, 21): "kurkanû of the mountains, fumigate (101, 3, 17). Quantities, $\frac{1}{3}$ shekel (50, 3 r 4), 2 bar (10, 2, 4): cf. "2 shekels" (Johns ADD, ii 1074).

(b) ROOT, a drug alone on goats' hair, for ... di 2: (KAR 203, 0I, 36). In magic (IV R. 26, 6, 42-43) the root is to be pulled up and used with pure salt, pure alkali, and grease from a cock brought from the mountains, to rub on the patients' body ①

As the evidence all points to زعفران = azupiranu = crocus, we must see turmeric in kurkanû. The leaf and seed of the former are used in AM, which is hardly referable to turmeric: the root of crocus sativus is prescribed as a diuretic by Diosc. (I, 25) who recommends the drug also for eyes and ears. Saffron was formerly used as antispasmodic and emmenagogue (Post B, IV, 352), and in many complicated medicines (EB, xxiii, 999). Turmeric, on the other hand, is the drug from the root of turcuma: hence the magical directions for kurkanû.

① The idea that turmeric is beneficial ext. still holds good in Basrah: I was given in explanation of the use of turmeric on the hands, يبيد البثور.

The use of "kurkanû" alone for jaundice is paralleled by the use of turmeric root "at one time much employed in medicine, chiefly for obstructions of the bowels and liver." (VK: 519) In India it is used ext. for pains and bruises, leech-bites, etc., and eyes in conjunctivitis; int. for jaundice. Fumes of burning turmeric cause copious mucous discharge, and are used in hysterical fits (IMP II, 1281).

(cf also Waring, Bazaar Medicines of India, § 390). The fact that ~~كركم~~ "kurk' ma root" in Syr. is *curcuma longa*, turmeric, and not saffron is conclusive. Indeed, in Ashar (Basrah) ~~كركم~~ = turmeric, in the bazar. ①

The equivalents of "kurkanû" in § BK are:

L. 497 "sapalginu", compared by Meissner (204, 29) to ~~كركم~~ which has been translated somewhat doubtfully "elecampane" (Löw 281). The cuneiform, if it does not make the meaning certain, increases the doubt about "elecampane".

"UH.TAR.RA = "drug for stopping saliva". "KA.BAB(?) possibly "drug for mouth bleeding" or "drug for stopping blood" (KA = parasu?, SA I, 408). UŠ.É and UŠ.É.U.SA, probably with reference to the curious phallus-like roots of the turmeric.

UŠ.É.EL.ŠAR (L. 499) as the "root of [Turmeric]" confirms this, probably a compound like ŠÉ.ÉL.ŠAR, something similar to garlic (§ 10 CM). "TA.HU.ZA.AH (L. 479), comparable to "PI.RI.ZA.AH (L. 500). L. 495, if "KUR

GI.RIN.HA means "cock's comb", the simile is from the curious flowers of the turmeric which "grow in loose scaly spikes ... of a yellowish red colour" (VK: 518, where the picture might be said fancifully to recall the cock's comb).

"Namul issuri may perhaps be referred to the same idea; inamullu is a wooden object (MAG 82), possibly ~~נַמּוּל~~ (estr. ~~נַמּוּל~~) "a web (weaving), loom", and if so, perhaps by extension, namullu might be the comb used in weaving. But very doubtful.

Finally we may discuss "LID.GAB, sapru.

① Forstkal (EF, C II) gives kurkum = *Curcuma rotunda*, in Arabia.

* not possible; ~~נַמּוּל~~ is the actual web, not the loom. (JHester)

112. 𐎧𐎠𐎢𐎡 BG, U. 437-444: BK, U. 477-503

(a) Simply (17): EXT., bind (15,3,15: 52,3,6: 70,7,4: 79,1,22), anoint (37,3,4: 55,8,5: 96,4,5): apply anus (101,3,5): swelling (100,3,13): anoint in oil for insects (KAR. no. 203, p. 95, 18). "LID. GAB tapas ... tuballal, anoint in a ritual for MAŠ.TAB. BA (twins?), alone (64,1,32). Described as šam ašû (i.e. for pain) anoint in oil (alone, KAR 203, 62): use in some way for guraštu (17,1 ii, 2): cough (80,1,20). (b) SEED (5) EXT., feet (bind) (74,1 iii, 10), anoint for ašû (pain, 55,8,5: 64,1,22: cf. 𐎧𐎠𐎢𐎡 AV, L. 78). Use in some way for temples (20,1,14). INT., drink as a drug for "having seed" (KAR, 203, p. 93, 18).

IDENTIFICATION: "šapru, since it = kurkanû "turmeric", can only be from $\sqrt{\text{𐎧𐎠𐎢𐎡}}$ "yellow". But it is distinct from kurkanû; cf. ["KUR.GI]. RIN.NA "LID. GAB in a prescription (78,7,9). LL. 437 ff. ka-man (or niš) -tu, 7 bk. in AM: a drug for ašû (PL. 29, K. 4566, 1, 5). EXT., for feet (69,7,4,9), bind temples (4,6,2), anoint for ašû (16,4,3). That it is the correct restoration here is clear from the duplicates 4,6,8-12, and 96,4,1-6, where it varies with "LID. GAB. It is quite possible that kamantu = 𐎧𐎠𐎢𐎡, 𐎧𐎠𐎢𐎡 "colour", although kanistu being possible, we might have compared 𐎧𐎠𐎢𐎡 (𐎧𐎠𐎢𐎡), a Persian word for an alkaline herb for washing. ①

From "ša-la it-tu it will be seen to be a colour. This ("ša-la it-tu) is obviously similar to ID^{II} PL ŠI+ DUP. PL (quoted above, from PL. 48, Rm 328, n. 4 " [drugs] for marking hands". This must then be "a drug for marking šala", and the obvious comparison is 𐎧𐎠𐎢𐎡 "a hide, corium".

We have thus a drug, yellow like turmeric, used for staining hides. It can only be the sumach, the Rhus coriaria, L., one of the best known products of N. Mesop., where dyeing

① Note PL. 40, Rm ii, 41, 3-4 KUR.GI. [RIN.NA], ka-ma-[an-tu]

leather yellow and red is a staple trade^①.

But there is a most interesting confirmation that "L10, GAB = *Rhus coriaria*," "Ki-ip-ni, its equivalent in L441, must be KA, fames: it is "a drug for hunger, appetite" PC XIX, 485 (1841) says of *Rhus coriaria*: "it is extensively used for tanning, and it is said that all the leather made in Turkey is tanned with the bark of this species of *Rhus*. The fruit is acid and astringent, and the seeds are often used as tonics for exciting the appetite." VK 520 says "the seeds are used in Aleppo to provoke an appetite before meals."

Pliny (NH XXIV, 54) prescribes it for bruises, and ulcers of the rectum, and also internally.

§ 10, BH, ll. 445-449, "ZALLU ERİŠTI, etc. See § 10, G, I.

§ 10 BI, BJ, ll. 450-476, "ARUŠU, "AMUŠU, "KUNIBHU, etc., *Viciae*, *Lathyrus*, *VETCHES*, etc.

These two long sections are obviously closely connected. The plants contained are not used in medicine, but one (*Kunibhi ŠAR*) is cultivated (MB 7).

"Atirti ekli" indicates a field-plant. Holma (KB 58) rightly compared ~~it~~ *Lathyrus*, which occurs as *L. Hirsutus*, L., at Kalah Sherghat (Herg. OLZ, Beiht. II, 33: SH. 31). Note, however, "atirtum, § 9D, L. 17, = *Euphorbia*.

For reasons to be considered subsequently, it must be the *Lathyrus* here: the two sections seem clearly to contain many of the *Viciae*, including *pisum* (pea), *vicia* (vetch), *ervum*, *lens* (lentil), *lathyrus*, *orobus*, *fabia* (bean), and *cicer*.

Beginning then with "atirti ekli" "field *lathyrus*," we can see in it as Holma did, *L. hirsutus*, L., a cornfield weed growing amid crops in Mesop. (BFA 609)

① On this see my chapter on the Carchemish Tablet, Woolley, Carchemish.

88 10 BK, ll. 477-503: 10 BL, ll. 504-505 etc.

115.

8 10, BK, ll. 477-503 "KURKANU" see 8 10, BG.

8 10 BL, ll. 504-505. "HAZALUNU", "KASALLUHU".

Possibly "hazalunu" might be compared to the form 𐎧𐎠𐎢𐎠 (the purple mussel), but it gives no botanical comparison. Post (824) gives a word *henzalûd*, *Ruppia rostellatus*, Koch, a ditch-grass. Not probable.

"kasalluhu" occurs PL. 31, K. 8846, r. 20. Possibly the rt-hand col. "pu-..." is to be restored from the next section.

8 10, BM, ll. 506-511 "PUHPUHU (2?)

Possibly $\sqrt{\text{𐎧𐎠𐎢𐎠}}$ "was fragrant" In AM (40, 2, 5(?) : 91, 6, 4). Is it ~~Portulaca~~ *Portulaca oleracea*, L.?

8 10, BM, ll. 512-521. "UHULU(8): "UHULU KARNANU (74), uncertain (57: *Salsola kali*, L., *Salicornia*, LYE, ALKALI.

(a) Uhulu simply; cleanse mouth (with 𐎧𐎠𐎢𐎠 and 𐎧𐎠𐎢𐎠); enema (56, 5 r. 2-3). Quantities, 1 shekel (41, 14, 18), $\frac{1}{3}$ mana (56, 5 r. 2-3).

(b) Uhulu karnanu (twice U. K. ŠAR, 98, 1, 2: 99, 3, r. 20), and once the adj. kalate "burnt" is appended (7, 7, 4).

EXT., eyes (9, 1, 20: 16, 1, 2: 17, 4, 4, 9: 19, 6, 12): anus (53, 9, 11: 57, 5, 12(?) r. 8(?)): temples (2, 11, 16): assuage 𐎧𐎠𐎢𐎠 (blains!) 32, 5, 5, 8): bind on swelling of heels (73, 1, 16): wash patient (94, 2, 11, 9): wash rit-ti (98, 3, 3): wash head (5, 5, 9). Bind on sualam (cough, 60, 3, 3). For KA. DIB. BIDA (mouth or tooth (78, 1, 30), Fumigate (93, 1, 11: 98, 1, 2: 99, 3, 17, 19). Enema (56, 1, 14, r. 7: 57, 5, r. 2: 94, 2, 4, 7, 9). Uncertain use for frigidity (57, 10, 6): stomachic (39, 1, 35: 40, 1, 28): kinisti (constriction, 60, 1, 5): drink(?) (89, 4, r. 1). Quantities $\frac{1}{3}$ mana (56, 1, 14): 3 še (9, 1, 30): 1 shekel (89, 4, r. 1): 2 shekels (5, 7, 5): 10 shekels (99, 3, 17). LA occurs (55, 5, 5), and possibly [5] M. u. k. (12, 8, 3).

Long identified with ~~𐎧𐎠𐎢𐎠~~ "lye, alkali" (HWB, 43).

116. § 10, BN, ll. 512-521.

which = Li'il (Löw, 42), described by Chesney (Exp. I, 574, cf. 593), speaking of "sheinan and alkali," the soap-plants found in the deserts E. of Palmyra, EL-Asha, and Nejd, the Arabs still obtaining lye from their ashes (cf. Von Opp. II, 386, between Damascus and Palmyra). Post (686) gives ushnan, khurusah, khimâm, and khunân, as the equivalents of *Arthrocnemum glaucum*, Del.

U. karni and karnanu "horned" (cf. HWB, 43, SA1 2980¹) are clearly descriptions of a soda-plant, either *salsola kali*, (whence alkali is obtained in Palestine (FTP 27)), or better, *Salicornia*, the name of two species of Chenopodiaceae abounding in soda ("the name is from the Latin sal, salt, and cornu, a horn, from the alkaline salt in which it abounds, and the horn-shaped branches," C.A. Johns, Flowers of the Field, 530).

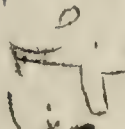
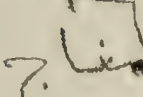
"Kiltum must be كالتوم *Salicornia herbacea*, L. "sagilatu (prob. distinct from "saggilatu (2), § 9 cf. and prob. PL. 24, K. 4412, r. 24, cf. 25; AM, 5, 5, 14 and prob. 43, 17) must be ساجل (ساجل) the name of an alkali plant. It certainly cannot be ساجل *Cyperus* (Zimmern, AF 58). Finally "Pir kalbi is perhaps the equivalent of the mod. فيس ال-كلاّب (for *Chenopodium album*, L., and *murale*, L. (Post, 678, 679).

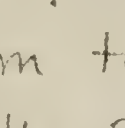
Carbonate of soda is prescribed ext. for eczema (p. 1107) and "dried", unofficially in baths (p. 1109). Gerarde (429) recommends *salicornia* for provoking urine, and bringing forth a dead child from the womb, and the ashes for removing scabs.


Alkali is made in India from *Salicornia brachiata*, Roxb., *Suaeda fruticosa*, Forst., and *S. monoica*, Forst. The sun-dried plants are burnt in pits, and the fused alkali collects at the bottom, becoming "barilla" ready for For karnanu cf. B+ 1204, 1205. كالتوم, of the poppy (Löw, 203)

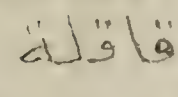

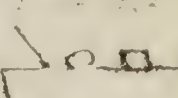
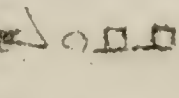
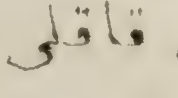
export (imp. 1069). In Basrah I saw a grey powder from the š'nân called julu or jilu. The š'nân, as sold in the bazar, was in ½ inch pieces, and was said to have dried on the bush. It is gathered thus for soap at Suk-est-Sheyukh. Herzfeld (SH 33) gives *Salsola auriculata*, Mq. T. (at Tabus on Euphrates), *S. spissa*, M. B. (at Rusafuh on Euphrates), and *S. vermiculata*, L., at Qalat Jabar, and others.

10 BO, ll. 522-530. "MANGU, "KAKULU, "S(Š)AMETU, (= *salsola fruticosa* L.), various soda plants.

CT. XI, 45, ll. 6-8 gives these three as equivalent of "EL-TEG, which sign must be restored here (cf. 89 BN). Mangu =  (Meissner, ZA VI, 293), *Phaseolus Mungo*, L.,  "a sort of green peas", the Mungo of Clusius (Dozy, Supp. II 617). It occurs MB 12 (man-ga ŠAR) with šitû ŠAR, lahlahi ŠAR, šukurtu ŠAR, and kakullu ŠAR. In PS it is given as the equiv. of julu "pulse" (Löw 245), the mod. equiv. being "vetches".

At the same time, tempting as this equivalence is, it is hard to reconcile either with the sign ELTEG or kakulu, šukurtu, and šametü, all of which seem to indicate soda-plants; that is, if  is really *P. Mungo*. It is possible that "mangu" is the (Arab?) *mârjo*, soda, *kali* (plant), *suaeda fruticosa*, Forsk., given Dozy, Supp. II, 578.

For kakulu Meissner (ZA VI, 293) suggested the obvious , which he accepts as Cardamom. Actually, however, in this word we have to deal with two possibilities: (1)

,  Cardamomum or Nasturtium, a sort of Cress eaten by the poor (Jastrow, DT. 1409) which is  *C. vulgare*, doubtless the *κάρδαμον* of Diosc. (I, 174) (of which he says "the best is Babylonian"), supposed to be the *Lepidium sativum*, L., found in Persia as far as Isfahan cultivated everywhere (BFO, I, 354): and (2) ,  *Salsola*

118 § 10 BP, U. 522-530: 10 BP, U. 531-537.

fruticosa, L. (= Suaeda fruticosa, Forsk.) in Iraq (Ps. 37:10: Dozy, Supp. II 296), which, says IB (No. 1725), is eaten with milk, resembles soda, and its leaves are like cultivated cress; in India (IMP II, 1069) it is used as an emetic. In view of the definite value ELTEG = uhulu, alkali-plant, this is obviously the right equivalence, and we need not concern ourselves with cardamom.

But Suaeda is properly the Ar. سوسون, the soda-plant, or سوسون Chenopodium maritimum, L., also a soda-plant (Dozy, Supp., I, 699). In this we can clearly see our s(š)ametu, i.e., sawetu. The form of the word, esp. in its variable s-š, points to its being foreign. (For issur samedi, see § 10 BR). At Basrah I was shown a plant called suéd (September, 1915).

Again, šukurtu is probably شقير الحار, Chenopodium botrys, (Forsk., EF CVIII), one of the soda-plants.

Šitû, unknown. Lahlahi is comparable (but only philologically) to سيليبي Silybum Marianum, Gaertn. (Dozy, II, 521).

○

§ 10 BP, U. 531-537. (1)^u KUDIMERU, Cardamum, Lepidium sativum, L. (2)^u SAHLANU (1), Cardamom, L. sativum, L.

(1) In CT XIV, PL. 23, K 259, 8, prescribes it for a hollow tooth. From § 10 BP, U. 532-533 it existed in Syria.

(2) Sahlanu may well be ΣΑΒΛΑΝΟΝ, κάρδαμον, Lepidium sativum, L.; used for eyes AM 8, 6, 6 (alone). Cardamom is used ext. in India in all the diseases in which mustard is used (IMP I, 97), the seed being regarded as a more satisfactory rubefacient. That is, it can be used for toothache like Kudimeru: Diosc. II 205 says that the root of the Lepidium is so used.

There seems therefore every probability that ^uKudimeru = ^uSahlanu = Cardamom. Surely then we must see in Kudimeru the origin of the word κάρδαμον; by a usual metathesis where m and r are concerned.

○

§§ 10 BP, 2: 10 BQ, U 550-552: 10 BR, U 553-560: 119

§ 10 BP 2: "ALLUMZU (1), "ALLUZU (1)

Drink without a meal (22, 57): the root of "alluzi is used with mustard-root for teeth (PL. 23, K. 259, 13: KAR 202, 12); its juice (62, 3 & 5). Obviously some hot, pungent plant. (cf. PL 48, Rm. 328, V, 12)

§ 10 BQ, U 550-552: "KURSIMANU Not identified.

§ 10 BR, U. 553-560: "SAMEBU, "KUR.ZI

Maqû V, 33, kima "KUR.ZI ŠAR lisammušî kišpuša "like the "KUR.ZI plant may her sorcery blind her," a bad pun on "samedu. "KUR.ZI, PL. 39, Rm. 352, v. ii 14.

L. 560 shows that there were two kinds, a greater and a less. The dikdikku-bird is called "bird of the samedu" (PL. 4, iii, 40, like others, such as issur hurri, issur kîsi, issur ašagi, and issur tubaki, in which the habitat of each is specially described). Perhaps asmicku ŠAR is a form of it (MB 31)?

§ 10 BS, U. 561-562 ["..."] LAMBIRU Not identified

§ 10 BT, L. 563 ["AMA?"] A.NI "..."-si-tu

For the latter see § 10 CH, U. 636, 637.

§ 10 BU, U 564-569: "SI.DI (8), "GAR.GAN.GAN (5), "GIR(MN)GIRU (1), "EGIMGIRU, "ŠURDUNU, Eruca sativa, L., ROCKET.

—"SI.DI: (a) Simply (2); (b) SEED (6), EXT, bind (30, 2, 3) use for KU.GIG (58, 2, 4): cough (80, 1, 19). INT., drink (60, 1, 8).

Fumigate (91, 1, 10).

—"GAR.GAN.GAN (a) simply (3): apply tooth (36, 2, 3): drink (88, 3, 4).

(b) SEED (2), bind (55, 1, 7): apply, eye (8, 1, 26).

—"gingioa, simply (1), apply eye (12, 6, 5). "Gingirû (KAR 203, VII, 15) is šam KU.TAB "a drug for swelling on the anus" to be drunk and applied; it is also šam KU.GIG "a drug for sick anus" (ib. 6): šam KU.ŠA.TUK, "a

nettle for gangrene and menses, and the seed as aphrodisiac and for lung inflammations.

"Epitâtu, entirely uncertain. Sayce's ingenious comparison with 𐎢𐎠𐎠𐎠, part of the palm, is improbable: the word means a definite plant, and there are no equivalents from Šubari (where the palm is rare). EP III 6 (Pinches, PSBA, 1894, 309, 4) gives GI.KA.LUM.MA = ku-u-ri

§ 10 CB, U. 606-607. "KAMTI EKLI, "ŠAR EKLI

For the former, see § 9 D, p. 20. "ŠAR EKLI probably = "NUNUZ ekli (§ 6, l. 124, note). The seed of "NUNUZ used for feet (probably ext., 69, 2, 8).

§ 10 CC, U. 608-611. "KAMME (not "KAN.ME), see p. 274.

Discussed on p. 274, where its various forms, yellow, white, growing in fields or mountains, gurgurri (of the metal workers, not "rope")

§ 10 CD 2 "SIBURU (S) ŠIBARU, ALOES. See also p. 276

Always simply; INT., drink (22, 3, 7), for dyspnea (59, 1, 36), stomach (Kü III, I, 35, 36). Cf its description (Scheidt, RA 1916, 38, 18) Šam marti / RAT ina kurunni tašatti "a drug for bile, bray, drink in kurunnu". Long identified with 𐎢𐎠𐎠𐎠, Löw (426) says sabbarah in Syria is only the Opuntia cactus: but Lane (1645) "of which the leaves are like the sheaths of knives" can only be aloe.

The form šibaru occurs (Bezold, PSBA XI, 54) "if the hair of his head stands erect like šibari".

① Correct my text Pl. 10, VI-V, § from imeri to arku.

② From this latter I had thought at first that it might be mallow, as one of the fibrous plants used in making cordage. Several of the Malvaceae might have fitted, esp. the yellow Sida. Ainsworth (Assy. 36) mentions Malva rotifundia, Ar. kobeisi. Post (178) gives Ar. as khubbâza, khubbaizi, and for M. Nicaeensis, All., raqmeh. But mallow, in the face of p. 274 is obviously impossible.

§ 10 CK 2 - 10 CK, U 620-666.

says (1388), of ܚܫܘܪܐ, that it evacuates atrabile, and is good for melancholy and dyspnoea (see Schoff, JAOS, XLII, 171).

§ 10 CD 3 "AARIANU, see pp. 45, 276. § 10 CE, U. 620-622

"HALLAR ZABI[TU?]. Uncertain. § 10 CF, U. 623-624

"SAGQILATU, § 10 BN, l. 520. § 10 CH, l. 636 "AMA.A.NI

§ 10 CJ, U. 660-662 "supalm, § 27, p. 159, and p 268. "ASU-

SIMTU, § 10 AW. _____ O _____

§ 10 CK, U. 663-666. "MURDUDU(2) ("ASTABELU(1), see § 10 W, and p. 266): "HASYURAKU, "HASYUR ABI(4) ** GALL-APPLE.

"Hasyur abi, lit. "Apple of the (reed)-thicket.

"Hasyuru has long been identified with ܚܫܘܪܐ (§ 39) which is thoroughly well proven. "Apple of the thicket" must have a special sense, like the Syr. use in pomae mandragorae, and for poppy-heads, and

ܚܫܘܪܐ ܚܫܘܪܐ pomus sylvestris (Ps 139). The first question is, What exactly is abu "reed-thicket"?

It undoubtedly means the reed-beds of S. Babylonia; but the Broken Obelisk (IV, 23, Annals, 141) speaks of

"swine of the abu", in a connection which appears almost entirely mountainous, and not S. Babylonia ①.

Can we extend the meaning of abu to "thicket" in general, esp. by the river-side (as opposed to "kištu" "wood")?

If we limit "hasur-abi" to a product of the reed-bed, I can suggest no equivalent except the "knops" or "rough burs" of the "burre reeds, Sparganium" of Gerarde (41), good for venomous bites when drunk.

But if we may see in abu the wider sense of "thicket", "apple of the thicket" may well be the gall-apple of the oaks (which grow plentifully on the hills, although not on the flats) ②. That

① The wild-pig of Mesop., of which there were at least two varieties, inhabit the Tigris valley for much of its length. I shot at one by a watercourse in the hills some days N. of Mosul in 1904, and was told that they were also to be found in the hawiga-thicket opposite Mosul.

② There are also gall-apples of Tamarix Gallica, L., and T. Orientalis, Vahl (WPI 39).

VH
balot
acorn.
(T^h)

this was a staple trade in old days as it is today round Aleppo and Harran cannot be doubted: the great estates of Belu^t-trees (mod. ~~bejla~~ dwarf oak) round Harran is known by the texts published in Johns' Liber Censualis, as I pointed out in my chapter in Woolley, Carchemish, I, 137. I need not repeat here what I have said at some length there about the ancient and mediaeval trade in gall-nuts and tanning.

Gall-nuts in medicine are astringent, to suppress bleeding, lessen mucous discharge, and are used in ointment for painful haemorrhoids (P. 550), and tannic acid from nut-galls is styptic, local astringent, and int. for haemorrhage (P. 25).

In AM ^uhašhurabi is used for KA.DIB.BI.DA. (mouth trouble) 18, 1, 19, and prob. 23, 2, 6). Restore PL. 36, 79-78, 22, 3 [^uhašhur]abi = "ša-mi dāmi parasi(ri)" "apple of the thicket," a drug for stopping blood." INT, drink for TU.MEŠ (KAR 203, IV, 50, cf PL. 29, C. 4566 + 26, K. 14047, 12, a drug for TU.MEŠ): PL. 48, Rm 328, n. ii 7, one of the drugs for ŠA.MI: drink (?) (87, 5, 14).

PL. 32, § 1328, and its dup. PL. 39, K. 10126, gi¹⁴

[gi¹⁴.MA+GUNU §15].GI

^uha-aš-hu-ra-[ku] (v. ^uhašhurabi)

[P ^ua-pi-š]a-nu

" " ina šu-ba-ri

I offer the restoration apisanu (gall-nuts or gall-oaks) very tentatively from the Carchemish Tablet quoted above, which deals with the question of rights over apisanu (gall-nuts) etc. Šubari would certainly extend to Carchemish.

^uHašhuraku is made up of hašhuru + ku, perhaps like elammaku from elamma, and possibly abukatu, ašlukatu, feminine forms from abu, ašlu + ks (see § 100). It must, if so, mean "produce of the apple", i.e. tannin.

^uMurdudu (2) (87, 5, 9): bind head (2, 1, 20) uncertain.

^uaštabelu. § 10, W.

① Meissner (Bab. Ass. 208) uncritically accepted Johns' value "vines" for ^ubelu^t, which has obscured the true value of these interesting documents. ② A part of the body.

§ 10 CM, ll. 672-681; 10 CN, ll. 682-689, etc. 125 ears, and to hair to prevent greyness (IMP II, 1294) (see a similar remedy from the leek). *liššurati* may perhaps be ~~jaš~~ *Urginea scilla*, Steinh., Squill. *Bišru* is 𒀭𒍪𒍪 onion (Holma, KB 66).

§ 10 CN, ll. 682-689. 𒀭𒍪𒍪 *HAŠŠU ŠAR* (?), *Lactuca sativa*, L., LETTUCE.

= 𒀭𒍪𒍪 , lettuce (Meissner, ZA, VI, 293). Its seed with cummin bound on sick eye (?) (Is 1, iv, 8). The narcotic principle of lettuce has long been known.

Since the Sumerian word for *guzazu* means "the small lettuce", we shall probably be right in seeing in it the Cabbage Lettuce as opposed to the upright ^{Cos.} lettuce. The *muraru* "bitter lettuce" (cf. 𒀭𒍪𒍪 and Syriac *hasmerare*, Zimmern AF 57) must also be a small variety; it is distinct from *marrutu* in l. 97, "endive", Syr. 𒀭𒍪𒍪 kept distinct in a different division of MB from the lettuces. *Šihu*..., some related plant. *MUH. AŠ. AŠ. ŠAR*, § 10 E.

§ 10 CO, ll. 690-693. "ŠU" (O) SPELT, "PAR..." (O?), "SAHLÊ" (134), *Lolium temulentum*, L. "Šu" occurs § 9 BW: presumably, but not certainly we may restore it here. Hrozný (Getr. 88) compares it to 𒀭𒍪𒍪

126. § 10 CO, ll. 690-693.

Spelt, as distinct from še'u "corn", and shows from the frequency of its occurrence with sesame in Johns' ADD 1002 ff, how important it was. ①

It is difficult to suggest a restoration for l. 691. I had thought g[a] possible, i.e. ~~g~~ is "millet", but in face of BULUG, § 73, if for no other reason, this is improbable. Besides, Mr. Sidney Smith, who has kindly re-examined the tablet says that the character ~~g~~ does not favour ga.

With "Spelt" in this section, my restoration sahlû would, if correct, provide us with a cereal. It is a most important word, hitherto, I think, wrongly translated. Sahlû, sahlê, ZAG.HI.LI (ŠAR); sa-ah-li-i (Landsberger, OLZ, 1922, 203): sah-lu-u (16,1,26: 39,1,43), sah-li-e (15,6,10): not kit-ni-e (Meek BA *43); Maqlû v. 32 confirms this: kima ZAG.HI.LI.ŠAR listulusi kišpuša. That ZAG.HI.LI = sahlê is clear from duplicates (16,4,4 and 64,1,35).

In AM (a) Simply, passim: EXT. (19,5,5?: 29,5,5: 31,2r,6: 44,1ii6: 49,4,2,4: 98,3,9: 72,2,11: Kû ii, i, 15): on temples (20,1,19, 20,37), ears (33,1,24: 3r,1,37), eyes (8,1,14,17: 8,5,7: 12,8,8: 16,1,1, 6: 19,6,5,7,12,15(?)), nails (100,3r,10), teeth (21,1,15) feet (68,1,79: 69,7,9: 74,1,33), anus (42,2r,7(?): 53,9,7), bind on heels (73,1,16), on stomach (Kû ii, 1, 20), mašša (27,2,13): for cough (50,1,7: 80,1,20). For KA. DIS.BI.DA (23,2,11: 78,1,13,15,17, 20,29,30): cleanse mouth (78,1,3): for yellow saliva (31,6,7), Fumigate ears (33,1,36). Enema. (94,2,6), INT. (80,1,5): drink (1,3,12: 16,4,4: 26,6,12: 36,2,12: 64,1,25: 81,1,4: 83,1, 7, 20: for stomach (39,1,43: Kû ii, 1, 23). Uncertain use (2,3,5: 39,1,33: 40,1,45-47: 45,6,10: 58,2,3: 79,5,2). Quantities: 1 še (26,6,12): 7 še (91,4,11): 3 gur (23,4,ii 3): $\frac{1}{3}$ ka (41,3,2): $\frac{1}{2}$ ka (15,3,18), 10 shekels (20,1,19: 64,1,6).

① Hrozný, ib. 55, gives lahrû, kurāšu, bututtum, di-šistakku and alabbanu as its equivalents.

Next, in support of this, cf. ... sahlê itti GAR.ZIZ.AAN ikkalu^{Pl} (34, 1, 16); ... -ma sahlê ŠAR GAR.ZIZ.AN.NA buhram saluppu ikkalu^{II} (35, 1, 9) (i.e., eat sahlê with wheaten bread): hi-ib-za ina sahlê ikkal (105, 13) "bread in sahlê he shall eat" (Ribza = خبز). Also, sahlê forms a regular part of the daily diet: cf. Strassm., Nbn., 925, "2 pi of ŠE.BAR (corn), 2 pi 18 (ka) of dates, salt, sahlê, as the food for Tebet Šamaš-iddin, the boatman of the brick-barge, has received". Neb. 441 (ib.) speaks of -bît tabilu (a pepper-pot?) and 10 sahlê, both obviously condiments.

Both *Lolium perenne*, L., and *L. temulentum*, L., are common in Palestine (Post 896: cf. BFO, V, 681). *L. temulentum*, in spite of its definitely narcotic effects (Bentham, H. 597) has been frequently used in making bread: the grain "is poisonous, both to man and animals; but by no means always, for bread has been made out of it, and eaten with impunity ... The effects of eating bread containing flour of darnel grains are described as resembling those of intoxication" (HPP 179). "According to Christison, darnel when mixed with flour and made into bread, has been known to produce headache, giddiness, somnolency, delirium, convulsions, paralysis, and even death. ... a case is on record of a small farmer near Poitiers in France, having killed himself by persevering in the use of darnel flour for making bread." (PC. XIV, 1839, 99).

IB No 1370 says that its grain has nothing harmful in it, but it is used ext. to produce a narcotic effect. Post (HDB, IV, 678) says that there are four species in Palestine, and that they are not eaten except by fowls. Culpeper (85) says of the darnel that it is not without some vices, but has many virtues: its meal stays gangrene and sores, and with salt and radish-roots it cleans the skin of leprosy, etc.; with water and honey it is used to bathe sciatica. In a poultice it will draw forth splinters.

It would seem therefore that *L. temulentum* was

§ 10 CP, U. 690-693; 10 CP, U. 694-697; 10 CP etc. 125.
used in medicine frequently, doubtless partly on account of its
narcotic effects: that, in spite of the danger arising from its
use as a food, it was customary to use it in bread-making.
If I am right in identifying it with sahlû, as there seems
every reason to do, we can see this use both in medicine
and bread-making reappearing in the cuneiform texts.

§ 10 CP, U. 694-697. KITÛ (linum, FLAX.

(2) Simply, KAT, iKAT, uKAT (3).

(b) KU.KAT (9) i. o. "KAT-cloth": in applying poultices, K.K.
kašappir (28, 3, 7, var., kešipir, 16, 5 ii 6), tapattu (25, 6 ii 10, for
bu'sanu in mouth and nose, 90, 2, 18), takattamsu (90, i, 7);
sprinkle K.K. with oil (for bu'sanu, 27, 1, 4): in K.K. bind
(84, 4, 8). (c) SEED (13) EXT., (32, 5, 10), oint (94, 2 ii, 12

96, 1, 3): "like a rabbit" (61, 2, 6): bind šiggati (blains(?), 32, 5, 5): ana
ša kabiti lubbuki (69, 8, 15). INT., drinks (55, 2.2: 90, 1, 17).

Used for lungs(?) (54, 1, 5). Quantity, $\frac{1}{2}$ ka (51, 10, 2: 77, 1, 11).

It has long been known as providing a kind of cloth (MA
55), and Scheil (RA XVIII, 52, ii 30) was right in his suggestion
that it is flax or hemp. But "hemp" I have already iden-
tified as azallû, § 10 AT, and it would hardly need the
frequent connection of kitû with lubulti birme, calling
to mind the "purple and fine linen" to settle it as flax.

Linseed poultice ext., and linseed int. for catarrh,
dysentery, diarrhoea, etc (P 729) coincide well with AM

The form 𐎧𐎠𐎢𐎽 , 𐎧𐎠𐎢𐎽 may be an -an derivati
perhaps occurring as ka-at-nu in L. 700.

§ 10 CP, U. 702-704 BAHURU. Is this عود البخور ,

Lignum aloes?

§ 10 CP, U. 711-718. ANTAHŠUM (5), PRUNUS, PLUM:

KARŠUM, Cerasus, CHERRY: SUPURGIL, Cydonia, QUINCE.

(1) Antahšum: simply, always: eat alone with honey and
butter (83, 1, 19): eat, AW. LUM (unwashed?, 81, 3, 1). With kukru
(fir-turpentine) (81, 8, 9): In 83, 1, 8, one of 27 drugs. For the e
out on oil. RA XV, 75), in MB 5: GA antahšum (17, 7, 6).

Antahšum occurs frequently in Johns' ADD, e.g., 1024 (l. 8) DUK.KA.ZAK *hi-li-di* (l. 9) DUK.KA.ZAK *an-tah-še* DUK.KA.ZAK *su-pur-gil* (l. 10) DUK.KA.ZAK *sir-di* 'sa-ab-lu sa-am-ri'. (cf. 1003, 8, ff.: 1005, r. 2 ff., 1007, r. 8 ff.: 1009, 5 ff.: 1010, r. 9 etc, where the same groups recur). Supurgil is given as *su-par-gil-li* 10:3, r. 3: *sir-di* ends a line, 1015, 7.

Now the DUK.KA.ZAK is a vessel which holds oil or honey (Zimmerern, *Rituelt.*, 67, 9, 10: 68, 14), so that we may expect the contents in ADD to be of a similar nature, thick or sticky. But antahšum is to be eaten in AM: it must therefore be a fruit from which a thick, sticky substance is to be obtained. It is hardly native Assyrian, being quinqueliteral.

It can hardly be anything but انجاس, انجاس, plums in Mesop. (pears in N. Africa), a foreign word (see Lane sub *انجاس*). It becomes a certainty if we recognize in DUK.KA.ZAK a pot of conserve or, more likely, syrup, with supurgil as سرجج "quince".

Returning now to § 9, CT; since antahšum is "plum", karšu must surely be some similar stone fruit, and the obvious comparison is *Cerasus*, cherry, taken over(?) in كرز. Sargon (VIII cent.) mentions the karšu with *šumlatû* ("a pleasant fragrance") growing on the mountains of Sinahulzi and Biruatti, probably to the East of Lake Urmieh (Thureau Dangin, *Une Relation de la Huit. Camp.*, p. 9, l. 28).. Since the cherry was introduced into Europe from Asia Minor, there is every reason to suppose that it brought its name karšu with it, now the German *Kirsch*. VA Th. 721, quoted Meissner, ZA VI 292, "two ka of honey, five ka of karšum ŠAR, five ka of pine" is obviously not "leek", but cherry (-gum).^① PL. 48, Rm. 328, VI, 8 it is a drug for *ahhazi*.

Parri' may be the same as *tak parrum* (PIBE xxvi, 62, 1, 2)

^① Cherry-gum is the best of the gums yielded by the *Brunus* genus (VK 330)

for which Langdon suggested a kind of hard fruit, perhaps the stone of the juniper-fruit. But it is doubtless nearer one of the genus *prunus*.

Returning to the quotation from ADD. *Ṣamru* also occurs in John's Assyrian Domesday B., No. 3, 1, 6, 8, ii 5, iii, 3, from which we may gather that the *ṣamru* grew in orchards round Harran, often as many as 300 "kanni" at a time, with 150 *ṣarbutu* (*styrax*) and *ulupu*-trees, and sometimes distinguished by the adj. "green, yellow". Here in ADD a "basket" of the fruit is quoted. It is thus a small(?) fruit, especially Syrian, regarded in ADD as a delicacy(?).

The explanation seems to be the *Jujube*. *Ṣamru* is the med. Ar. for *Paliurus aculeatus*, Lam. (Post, 201) common in A. Minor, with a broad brown fruit (PC xvii, 168). But there is another of the *Rhamnaceae*, *Zizyphus*, of which *Z. vulgaris*, Lam., the common *jujube*, is a native of Syria, with a fruit blood-red or saffron in colour, sold in great quantities in Constantinople; a syrup is made of it, and when dried the fruit forms an agreeable sweetmeat. It is easily propagated by cuttings of roots or by suckers, and it grows to a height of 20 or 30 feet (PC xxvii, 789). The fruit of *Z. Spina-Christi*, L., is also much eaten in Egypt and Arabia. Properly the *Z. jujubi* is 'Ennôb in Ar., and *Z. Spina-Christi* is Naba, or Sidr (Post) but probably they are sufficiently near to the *Paliurus* for us to borrow its name *ṣamru* for *ṣamru*. John's translation "shoots" for *kanni* was probably right.

Sirdi must be the *šaman si-ir-di* of AM 33, 3, 7, and 96, 4, 11, and the 'sir-di of 1, 2, 19. In Sennacherib Kuy. 4, 37 (quoted MA 783) 'si-ir-du u rikke rabiš iimuhu "the sirdu-tree and aromatic shrubs were very fragrant". Senn. also says rikke u 'si-ir-di a-na ba-'u-li ar-ku-up (King, CT. xxvi, 29, 21); and also Kuy. 4, 41 (Del HWB 511) *šaman sirdi* u hibišti. It is obviously, a tree which is not a

§§ 10 CT, 11.711-718: 10 CU, 11.719-722.

native of Assyria; was introduced into the Royal Parks: noted for its oil, used sparingly in medicine, and carried in flasks (DUR.ICA.BUR). I thought at first that it was the olive, for which no Assyrian equivalent is known^①. But there is a much more probable solution in ^{ti}ti^{tu} "bitter almond"; the change of sibilant might easily occur in a word borrowed at a late period as sirdu must have been. The "bitter almond," a variety of *Amygdalus communis*, L., provides an essential oil which from the large amount of prussic acid it contains, is a powerful poison. But confectionery is flavoured with "Almond flavour", spirit of almonds (HAP 79). The medicinal properties of almond oil are emollient, demulcent and laxative, and in enema (P.150).

§ 10 CU, 11.719-722. ^uNU.LUH(7), ^uNU.LUH.HAI,
^uNUHURTU(74), ^uTIYÂTU(14), all = ASAFOETIDA.

There are at least two possibilities for the restoration of 1.720, [ti]-ia-a-tu or [ku]-ia-a-tu. The latter (§ 10 AV 2) may be safely omitted. Nuhurtu and tiyâtu must thus be almost the same, for besides their occurrence in the same section, both have a gum, and several of the prescriptions containing them are similar. But that they are not exactly the same is shown by 85, 1, 5 and Kü ii, 1, 34, wherein they are prescribed together (a connection paralleled by arganu and barivatu, § 10 BB, BC 2).

Tiyâtu, having a Semitic equivalent, is easier to identify. It is spelt ^uti-ya-a-tu (76, 1, 3).

(a) Simply, passim: INT., for a besetted man, with mustard, nuhurtu diritu, etc. (85, 1, 5): "hand of ghost" (seizure, 76, 1, 9, 13, cf. 3). Method of use uncertain: for hinitu --- (dyspnoea?, probably: 59, 1, 13).

① It must be remembered that the olive does not grow in the ^{lower} Assyrian-Babylonian ~~districts~~ river valley proper.

sick stomach (52,1,8): with cannabis (29,2,4).

(b) חיל "tiyatu (1), "gum" applied to eyes with others (17,4,9).

IDENTIFICATION: correctly compared to 𐎠𐎢𐎽𐎢 (see Kü 85), but the meaning ranunculus, given in Löw and uncritically accepted by Assyriologists (e.g. Zimmermann AF 58) is wrong. Ranunculaceae are plentiful in Syria and Palestine, but are so frequently acrimonious and even poisonous, that it is unlikely that they would be prescribed indiscriminately to drink, although use has been made of them as purgative and emetic (GM 10). The ranunculus (buttercup) is not in SM at all. Moreover, the "gum" definitely precludes any such identification.

𐎠𐎢𐎽𐎢 = "buttercup" is a mistake. According to Levy, (Neuh. u. Chald. Wörterb., IV, 639), quoting Maim, "the 𐎠𐎢𐎽𐎢 is said to be the root of the 𐎠𐎢𐎽𐎢, (i.e. Asafoetida). Asafoetida is a gum-resin obtained from the root of Ferula foetida, Regel, and probably others. It grew near Babylon (IB No. 158): in Persia (BMP No. 126). It is laxative, carminative, used for flatulency, hysteric paroxysms, chronic bronchitis, and as enema in infantile convulsions. (P. 196): cf. the Assyrian for "hand of ghost".

We must thus see in "tiyatu a form of asafoetida: and what is more interesting, חיל tiyati was obviously taken over bodily in 𐎠𐎢𐎽𐎢 which has been incorrectly pointed.

"Nuhurtu must be similar.

"NU.LUH.NA (= "nuhurtu) is the common form, but (u) NU.LUH occurs 3tt. alongside it (55,2,6: 83,1,7, 2.18), so that the two (if the text is correct) may be distinct, although doubtless similar, plants.

"NU.LUH.NA occurs in AM: (a) Simply, passim. EXT., apply eyes (19,6,7). For mouth (30,13,3), ulatu (31,

134. § 10, CV, ll. 719-722.

4,12), KA.DIB.BI.DA (cleanse mouth, 78,1,13). Bind (98,3,9). As allanu (43,1,8: 57,5 r. 6,11). INT., drink (Kû i,ii,8, alone: KAR 203, IV, 36 alone): (48,2,6: 83,1 r. 18: 85,1,3,6: 89,4 r. 2?): alone in beer for dysmenorrhœa (KAR No 194, obv 32)①; for cough (KAR 203, IV, 29,36, alone: 81,8,5): jaundiced eyes (Kû iii,iv,23, alone): hand of ghost (76,1,9,14): with tiyâtu only (stomach, Kû.ii,i,34: cf 52,1,8). Uncertain method of use: lungs(?) (54,1,4,6): hinikti (60,1,5,12,21(?): 89,4,8): for umsati (17,5,3): kisirtu- (53,4,8). Prob. ext., " ... shekels kalû (IM.MAL.LI), 1 shekel myrrh, 5 shekels "NU.LUH.HA di-ri-tu" for when minaku-šu DUB.DUB ID^{II}-šu kinsâ-šu u birka-šu ... (31,1,2). For N. diritu cf. 85,1,6. Enema (56,1,6: 94,2,5,9). Quantities: 5 shekels (31,1,2: 89,4 r. 10).

(b) ROOT (6): INT., drink (89,1,6): "hand of ghost" (76,1,21): umsati (17,5,7). (c) SEED (1), ears (38,4 ii 10). (d) "STONE" (1) anoint (90,1 r. 5). (e) HILU "gum", (1) EXT. (55,1,4): INT., drink (KAR 203, IV, 43 alone). Alone for dyspnoea, drink, anoint, and introduce up penis by tube (KAR 203, 21). (f) "KU.NU.LUH.HA, 1 shekel (41,1 iv,18).

"NU.LUH, INT. drink (83,1 r. 18): (87,5,12 drink?): eat (81,3,1). (60,1,15, diritu).

Consider the following. Maqlû V, 38, kima "NU.LUH.HA.ŠAR littahhira šaptê-ša "like nuhurtu may her lips be pierced (slit, destroyed)" and VI, 109 [kima "NU.LUH.HA.-ma unahhara kal kišiki "[like] nuhurtu I pierce (slit, destroy) all thy sorcery". Obviously a play on the root nahâru, the slitting being the method used to obtain the gum.

In IB no. 158 under asafoetida will be found two forms: "𐎠𐎢𐎡𐎠, the gum, and "𐎠𐎢𐎡𐎠𐎠 the root. Everything

① Nahšati ipparasa, which must be 𐎠𐎢𐎡𐎠 (EYXVI, 36).

§ 10, cu, 11.719-722; § 11.

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thus points to نُهْرْتُو being *nuhurtu*, by some change of m and n. *Nuhurtu*, as "the slit plant" looks like an original form. In *nuhurtu* and *tuyātu* we must see either (1) the root as distinct from the plant (respectively); or (2) the names of two different species of *ferula* (as in P. 196), *F. foetida*, Regel, and *F. Narthex*, Boiss. Are we to see *nuhurtu* as the original from which νάρθηξ is borrowed (with ξ final, like στόραξ , ὀνόμαξ , etc)?

To obtain *asafoetida* in Persia the gatherers, after preparing the living root, slice it transversely, collecting the juice which flows. This they do three times, after which the roots are left to die (PC X, 242).

I am baffled by the use of ... [L]UH.HA on PL. 48, Rm. 328, VI, 2-4 (which must surely be $^u\text{NU.LUH.HA}$), one of the four plants for staining hands. *Asafoetida*, it is true, has an essential yellow oil, but I have no knowledge of its use for this purpose. *Gamboge* is of course, also a gum (essentially yellow), but there is no question of *gamboge* here; except that it might provide a parallel (but add p. 287).

The "stone" in (d) is perhaps the stony *asafoetida*, the name given to "balls of sand... made with the liquid gum-resin" (P. 196).

○

With the completion of the Plant lists, § 9, we can now continue with the Gums, and Aromatic Substances indicated by ŠIM.

§ 11 $^u\text{UD} = \text{HIL} \text{SARBATI} (= \text{storbus})^*$, *STYRAX OFFICINALIS*, L. (see p. 261).

AM 40, 5, IV 3 explains ... $^u\text{UD} \text{ša A} \text{A.TU.GAB.LIŠ}$ (= *sarbatu*) šum-šu " ^uUD , whereof the name (mean.

-ing) is water of 'šarbatu". Hîlu of 'šarbatu is more common than simple A "water" (KAR 203, IV, 32; S. 22, Meek RA, 1920, 179, 15, etc) and we are therefore entitled to see u^{UD} as the gum of the 'šarbatu.

In AM: (a) u^{UD}. Simply, passim: EXT, eyes (8, 1, 27; 8, 2, 1; 9, 1, 34; 11, 2, 42; 12, 6, 5; 16, 1, 8, 23; 17, 4, 7; 19, 6, 12), with poppy seed (8, 1, 7): with alum and rose-water, etc.? (15, 6, 8): with alum and "Akkadian salt" (16, 1, 10): blow into eyes with myrrh and "Akkadian salt" (9, 1, 38), or with "gum" of copper (9, 1, 39), or with *mint (urnê, 9, 1, 40). For ears (36, 1, 12): foul breath, mouth, and nose (23, 1, 10; 25, 6, 11; 26, 6, 8): teeth (28, 1, 4; mouth, 36, 2, 3): clean teeth, when powdered tak^{KUR}. RA and soda are added (54, IV, 9): nose (26, 2, 6; 39, 6, IV, 3): anus (94, 2, II, 7; cf. 57, 5 + 8): feet (alone, 74, I, III, 1): blow up urinary passage with oil (59, 1, 23): Wash (94, 2, II, 9). For šiggati (blains? 132, 5, 4). INT, drink: alone (13, IV, 5), stomach (alone, Kü II, I, 31, 48, and II, III, 61): with others, urinary (66, 7, 15): KU.GIG and dikša (58, 2, 5): dyspnoea (59, 1, 21): alone, jaundice in eyes (Kü III, IV, 17): cough (80, 1, 14; 80, 7, 10; KAR 203, IV, 32). Fumigate alone jaundice (Kü III, III, 17). Hîl šar-ba-te, drink, dyspnoea (59, 1, 35): 'šarbatu, simply, misitti (70, 2, 13). Quantities: 1 šu (41, IV, 26): 5 še (apply eyes, 8, 1, 30): 1 ka BIL, apply with 1 ka BIL of "amhara to uterus, in female ailment, KAR 194, I, IV, 9): ½ shekel (8, 1, 27; 17, 4, 7): 2 shekels (58, 6, 1).

(b) JUICE (3) (cf. Kü II, IV, 31). (c) 5 ŠE LA "UD, apply in curd, 92, 8, 8). (d) (SEED) mentioned PL 41, Rm 497, 4.

Cf. Boissier, Div. II, 36 šumma zîr 'šarbatî ikul, limuttu-šu ippatîr "if he has eaten the seed of the s., his pain will be assuaged".

The 'šarbatu grows in groves (VR 26, g-h, 19). It was particularly common in the north-west, near Harran: in Johns' DB 43 an estate is mentioned as bearing 150 'šarbatu and 'ulupu, amid which grew 300 kanni samri (probably "jujube" 8 OCT). (The form 'A.TU.GAB.LIŠ is also used in Johns' DB).

But it also grew solitary: *kiina sarbati edi ina kibri usemanni*
 "like a solitary, sarbatu on the river-bank he hath set me"
 (Reisner, Hymn. 10, 130). Cf. also CT. xv, 27, 42 (831) "in a sarbatu-tree he
 lies, sated with woe." Gudea planted one in his city in Baby-
 lonia; "a fair sarbatu; it-spread its shade (ISA, 165, xxii, 12).
 Noticeable is it that "UD = "the white plant" (~~see~~ p. 261).

Its characteristics are, therefore, that it was grown plentifully in
 N. Mesop., but was a rarity in the south; it was cultivated near
 Harran, doubtless for its produce. It grew thickly in groves or
 solitary by rivers: was tall and shady. It had a gum in
 common use in AM called "UD, for ext. or int. use: fruit
 not mentioned but seeds edible: probably a "white" tree.

Meissner ('13, 261: Bab-Ass 208) suggested mulberry, and
 Holma, with better philological reason, the elm (~~elm~~), but
 neither have any really important medical value, and both
 can be ignored. In Woolley, Carchemish II, 139, I pointed
 out the similarity of sarbatu to the *strobilus* or *storbus*
 of Pliny (NH, xii, 40), an odoriferous gum from Harran, which
 he says the Arabians import from Carmania (Kirman), using it
 in fumigations, especially to induce sleep, and that Harran was
 the great entrepôt for it. ~~سرب~~ is an Ar. word for
 a red gum (Lane 1674), said by some to be the gum of the
~~سرب~~ acacia, by others the ~~سرب~~ species of mimosa. But
 whatever its identification, ~~سرب~~ would certainly coin-
 cide well philologically with sarbatu.

The similarity between the characteristics of sarbatu-
 gum and *Styrax* (*S. officinalis*, L.) cannot be ignored. Post
 (HD 3, IV, 20) says *S. officinalis* is a shrub from 6 to 20 feet
 high, growing on dry hill-sides, bearing numerous
 snowy-white flowers resembling orange-blossoms, and
 a green drupe-like berry (for a picture, see Hannah Zel-
 ler, Wild Flowers of the Holy Land, No. 11). Official storax is
 the inspissated juice of the inner bark, with a vanilla-like o-
 dour. He considers that the Heb. ~~שֶׁרָב~~, with the authority of
 the Ar. *luban*, *S. officinalis*, may be considered

certainly to be the Storax rather than the Poplar. This essential characteristic of whiteness coincides well with *UD.

The habitat of the sarbatu agrees well with that of the Storax. Besides what has just been said, Pliny says of storax (NH 14 95) that it grows in that part of Syria joining up to Judaea, above Phoenicia. FTP 33 says it is abundant on the lower hills of Palestine. PC XXIII, 121, says that Asiatic Turkey supplies all that is now met with in commerce; and that the "tears" aggregated into masses constitute styrax albus; and (ib 470) that it is grown in [Syrian] gardens.

Medicinally, Diosc (I 79) says that storax is good for coughs and colds, for the womb and menses, and the ointment assuages headaches. Pliny (XXIV, 15) says of storax (Amygdalite, so Fée, Bostock V, 11) that it is used for cough, the fauces, chest, uterus: in drink or as pessary for an emmenagogue: for ears, and as scurfous swellings.

Conceivably στύραξ might be a mispronounced sarbatu, but in that case we should have a doublet with storcus. At the same time compare Byblus, Gebal: πρυμνίς, kanaktu(?): "akulap, ἀκκλόχον(?).

A note on 'ulupu should be added. Is this the علق, the fruit of the علب mentioned above? Improbable.

o

§ 12.

We may append here a vocabulary of plants allied to the above (the text is in M. 13, ii, 26, 62 ff).

| | | |
|-----|------------------------------|----------------|
| 62. | GIŠ. A.TU. GAB.LIŠ | gar- ba. tu |
| | GIŠ. A.TU. GAB.LIŠ. KUR.RA | ki-min šadi(i) |
| | GIŠ. A.TU. GAB.LIŠ. LĀL | ti-ia-a-lu |
| 65 | GIŠ. A.TU. GAB.LIŠ. A.ŠAG.GA | ki-min |
| | GIŠ. A.TU. GAB.LIŠ. LĀL | gir-gi-šu |
| | GIŠ. AIL. A.TU. GAB.LIŠ | ki-min |
| | GIŠ. BFL. A.TU. GAB.LIŠ | kul-lar ru |
| | GIŠ. MĒS. A.TU. GAB.LIŠ | kap-ta-ru |
| 70. | GIŠ. KUL. A.TU. GAB.LIŠ | za-an-za-li-ku |
| | GIŠ. GURUN | ki-min |

GIŠ. BU

hi - li - bu

GIŠ. MĒS. BU

su-lum ki-min

(63) i.e. "mountain storax". (66) girgišu, ~~𒄠𒂗𒂗~~ 𒄠𒂗𒂗, arbutus unedo, L. (Holma KB, 67; cf. a note in my article *MSBA*, 1908, 149) It is a native of the Mediterranean region (CBG, 96). (70) Zanzaliku, ~~𒄠𒂗𒂗~~ 𒄠𒂗𒂗, *Melia azeder*, Forsk. EF, LXVI (ident. by Ružička, BA V, 48; Holma, KB 70), sometimes called the Persian Lilac (PC XV, 80). (69) Kaplaru = 𒄠𒂗𒂗, compared by Zimmermann GGA, 1898, ⁸¹⁹ "knob" or "bulb" ornament, doubtless a fruit. (68) Kullaru must surely be 𒄠𒂗𒂗, lotus (Löw 283) or mospilus (288).

§ 13. ŠMURRU, (85) myrrh, MYRRH.

(a) Simply; EXT., anoint (94, 2ii 13): for head (2, 1, 22), temples (20, 1, 14) mouth-wash (21, 4, 5, and 26, 6, 9), nose (26, 2, 6), ears (33, 1, 26; 36, 1, 14, 15; 37, 2 v. 14), eyes (9, 1, 38; 9, 6, 10) "hand of ghost" (94, 2ii 17), ghost seizing (33, 1, 20), KU.GIG (42, 2, 1; 58, 2, 11), šiggati (blains?) (32, 5, 3; 51, 4, 7), chilblains (?) (32, 5, 12, 13), mikit irri (62, 1, 6): wash (94, 2ii 10). INT., drink (dyspnoea 59, 1, 34, 39, 45(?) ; hinikti (60, 1, 9) : (60, 1, 19) : Enema (56, 1 v. 6, 7 : 94, 2, 9). Fumigate ears (33, 1, 31 : 38, 1, 7 : 38, 2 v. 9).

Described as "ku.ša.tuk (drug for anus trouble), put on anus" (KAR 203, VII, 12): as a "drug for dyspnoea, drink in beer, anoint in oil, [introduce] by a tube up his penis" (KAR 203, 22). One of seven for hinikti (89, 4, 9, 12), of nine (89, 4, 5). Quantities 1 šu (41, 1 v. 24), 1/2 bitki (ib. 16), 1 shekel (31, 1, 2).

(b) OIL, (3) for KA.BIŠ.BI.DA (mouth or teeth, 78, 1, 32), temples (33, 1, 6). This was one of the gifts from Tushratta (Knudtzon, TA, 25, IV, 51); i.e., from Mitanni, north of Syria. From him also came ŠBUR = bašmu = plus, 16, 22, 3, 33.

(c) SEED, PL. 30, 79-7-8, 19, 14. In l. 13 "murra = GEŠTAN [GIR. RA] (see § 10 AG). In medicine (KAR, No 188, iii 16).

(d) A "Murru of the mountains" is prescribed for anus (KAR 203, VII, 12-13): perhaps the "murra šadi(i) (doubtful) of Kū iii iii, 9, drunk alone for jaundice.

Long known as Myrrh (MA 585). ŠIM.ŠIŠ = the bitter aromatic (√ 995, šiš = mara[ru] and marru (SAI 4582, 14583) i šiš = šam-ri-nu (Meissner, Suppl. 27, 82-5-12, 874, 8), √ + ~~𒄠𒂗𒂗~~ "made

to flow", the same root as šimru "fennel". It is the Balsamodendron Myrrha, Nees, from Arabia: used int. for amenorrhoea, leucorrhoea, bronchitis, dyspepsia, and locally for aphthous sores (BMF 59, 60).

§ 14. ^oHAL, BALUHHU (92), *GALBANUM.

i.3. HAL = ba-lu-hu (M. 13, 17, ii 28), so that the old suspicion of ^oTAR (~~BAFAP PA~~) as a mistake for ^oHAL, is justified (JAI 3522, 3576).

(a) Simply (35): EXT., bind (52, 3: breast and maška, 51, 8, 2): for head (2, 1, 14): for hands and feet (98, 3, 13): šiggati (blains?) 51, 4, 7: mouth (or tooth) (28, 1, 7): illatu in mouth unstopped (31, 4, 19). INT. drink, (85, 1, 3). Enema (94, 2, 7). Quantities, 10 bur (98, 2, 13), $\frac{1}{3}$ shekel (50, 3, r. 3): 5 shekels (17, 8, 5). In the same prescription with hîl baluhhi

"gum of b." (10): EXT. anoint (42, r. 1): wash (94, 2, ii 10): constriction of lungs (49, 6, r. 2): šiggati (blains? 32, 5, 4, 7, 12, 14). INT. enema (94, 2, 4).

... ^oHAL, for decayed teeth (PL 23, K. 259, 15). Pliny prescribes the seed of Euphorbia with wax for hollow teeth (NH XXVI, 39)

(b) Hîlu, GUM (46): besides those in (a), EXT., bind (24, 5, 12, mouth: 40, 5, 10: 84, 4, iv, 4). eyes (17, 6, 1): apply head (5, 2, 3), mouth (tooth, 28, 1, 4), anus (53, 9, 11), ears (105, 1, 16, 20). INT., drink for dyspnoea (59, 1, 32, 41). Enema, 59, 1, 11. Fumigate (55, 8, 2: 62, 1, 5, mikîl irri: 64, 1, 20, nose, 21 nose). Boil alone with NI. BAR. QA and blow by tube up urinary passage (dyspnoea, 59, 1, 22). Quantities, 10 bur (49, 6, r. 2): 1 šu (41, 1, iv, 24) 3 še (15, 3, r. 8), 2(?) shekels (66, 7, 19).

(c) OIL (Hix ears, (36, 1, 4). (d) ŠIM. HAL. ZUN (9, 1, 31).

It will be seen that ^oHAL and hîl ^oHAL occur frequently in the same prescriptions, an important point in identification.

HAL = gararu "to run", and nuhuru (cf. "nuhurtu, § 10 CU) "slit" (Br 78, 83), and, taking hîlu "gum" into consideration, ^oHAL must be some tree slit to allow the gum to exude. The obvious suggestion would be Galbanum, $\overline{\text{𐎠𐎢𐎡𐎢𐎠}}$ $\overline{\text{𐎠𐎢𐎡𐎢𐎠}}$ (which may well be an inverted form of baluhhi (cf. $\overline{\text{𐎠𐎢𐎡𐎢𐎠}}$ = lahru ① Galbanum is either Ferula Galbaniflua, Boiss., in Demavend

① Of course kalbanu must not be forgotten (8, 6, L. 57) compared to $\overline{\text{𐎠𐎢𐎡𐎢𐎠}}$ by Scheil, RT xxxiv, III.

and certain high parts of Persia (BFO ii, 988), or *F. Galbanifera*, Koch, in the Caucasus (ib. 997). Two principal varieties are recognized, the Levant and the Persian (P. 549)^①. The *āig*, a name for galbanum, has the form of a *Ferula*, and grows in Syria; is prescribed for poison of serpents and scorpions, plaisters on wounds, for headache, earache, haemorrhoids, obstructions of the reins, stone, and, by fumigation, to facilitate birth (13. 124). Modern, it is prescr. int. for catarrh, amenorrhoea and rheumatism, and ext. as plaster (BMP n. 128; P 548). P 549 offers a good explanation for *šHAL* as distinct from the gum: the Levant galbanum occurs in two forms (1) small, yellowish tears, probably from the stem: and (2) a tough, pasty mass, evidently from the root. The Persian kind occurs similarly in two forms: (1) a turpentiney, sticky mass: and (2) a treacly liquid, often containing fruits of the plant. The *hîlu* is probably the latter.

It must obviously be distinguished from *bdellium*, since the Assyrian lists once give *budulhu* for this (Pl. 33, 5.796, 11, noted Meissner, Bab. Ass. I, 243), preceded by *šIM.BAL* and followed by *ladunu* (*ladanum*). Neither *budulhu* nor *ladunu* occur in AM: they are prob. foreign words.

It is true that some of the forms given for "bdellium" by Diosc (I, 80) and Pliny (NH xii, 19) — *brochon*, *malacha*, *maldakon*, *madelkon*, *bolchon* — bear a greater resemblance to *baluhhu* than to *budulhu*, but with this latter word in existence, *baluhhu* has no claim at all to *bdellium* (unless galbanum = *bdellium*).

Bdellium was used for opening the womb, for stone, urine, cough, and the bites of mad beasts (Diosc. I, 80).

Ladanum is still used in Cyprus for catarrh and rheumatism (BMP No. 24).



§ 15. *šAN.BAR*, *šAN.NIN.13*, *MIKIBTU (68)*, **LIQUIDAMBAR ORIENTALIS*, Miller.

(a) Simply, *passim*: EXT., head (20, 1, 7), temples (20, 1, 15; 104, 1, 15); eyes (14, 3, 2), neck (28, 7, 6), ears (37, 22, 8), hands and feet (98, 3, 13), footsoles (75, i iv, 25). *Punicists* ICU. 919

① For details see BMP No 128.

142.

§ 15.

(40, 7, 18): bind (72, 2, 6: 98, 3, 9: 28, 8, 9, mouth and nose); anoint (82, 8, 13: 70, 2, 19, 22: 90, 1, 5: 92, 4, 4, 5: 93, 1, 5, 7: 96, 4, 6, 7, 10: 97, 4, 8, 14) fingers (14, 5, 2), temples (103, 21). Fumigate (94, 2, 12: 99, 3, 5), temples (20, 1, 13), ears (33, 1, 20). Used for too much saliva (31, 4, 17). INT., drinks (91, 5, 8). Quantity, $\frac{1}{2}$ shekel (41, 1, 14, 14), $\frac{1}{2}$ ka (60, 3, 14).

(b) "mikiḅtu male and female" (8), EXT., anoint (93, 1, 2): (or temples (2, 1, 18): put on neck (4, 6, 6). Fumigate ears, 33, 1, 29: 38, 1, 5: 38, 2, 1).

(c) "mikiḅtu male" (1) (29, 1, 5, anoint).

(d) "oil of kīlu (gum) of mikiḅtu" (1) (34, 1, 5).

(e) stone of AN-BAR (5).

Two "great trees of mikiḅtum" were sent by Šubrituliuma of Hatti (Anatolia) as a gift to Hueria, King of Egypt (Knaud. Zon, TA, No 41, 43).

IDENTIFICATION: A large tree of Anatolia, producing a gum, which is often called "male and female"; not native to Egypt (it would hardly be sent as a gift if it were), and little to shew that it grows in Assyria. Its use is almost entirely ext., often in fumigations.

The probability is that it is the Liquidambar Orientalis, Miller, a handsome umbrageous tree resembling a plane, 30 to 40 feet high, forming forests in extreme S.W. Asia Minor, and growing near the Orontes, and (believed) near Alexandretta. From its trunk comes Styrax praeparatus; said to be expectorant, stimulant, useful in bronchial affections, and scabies ext. (FH 271: p 1170). In the Arabic ميس we may perhaps see a descendant from AN-BAR ①

vouskoupat in Phoen. is supposed to be τιθύμαλλος, Euphorbia (Low, 193). Theophrastus speaks of a "male" tithymallus for bites and snake-bites (EP ix, xi). It is impossible to say with any certainty whether vouskoupat = mikiḅtu.

The curious use of "male" and "female" is paralleled by Pliny (NH xii, 32), on frankincense, the gum being shaped like testicles or breasts

① Zimmer (AF 58) applied the word liquidambar to amru. ~~But~~ Also see Holma, OLZ, 1913, 495. #

§ 16. ³BAL, ³MUR, BALUKKU (44), *FERULA COMMUNIS, L.
 (a) ³balukku, passim: ⁴ḫ. (2): ⁴ḫ. (1), simply. EXT., bind (49, 1, 18)
 for cough (50, 3, 8) (prob. 80, 1, 19). Anoint (45, 1, 10, 11: 96, 1, 3). Apply feet
 (89, 2, 10), eyes (12, 6, 1: 13, 3, 10); head, for ear, alone (105, 1, 9). Used
 ana SA kabiti lubtuki (69, 8, 17). Fumigate (64, 1, 20: 99, 3, 16), ears
 (33, 1, 31: 34, 5, 6: 35, 1, 7: 38, 2, 10). Unema, after boiling in kurunnu (94,
 2, 4), beer (56, 1, 13), oil and beer (56, 1, 6). (Cf. 56, 1, 4: Kü i, ii, 17). In one of
 3 maškiāti (41, 1, 14, 2, 13). Quantities, 10 shekels (79, 5, 5), 2 shekels (41, 1, 14, 13)
 (ḫ) "OIL of ³ḫ." (2) Apply ears (37, 2, 9), head (105, 9).

In the contract quoted in § 25 it is noted "8 mana of gums, 1 mana
 of balukku, 18 ka burānu, for the censer of the Sungod" Rm. 145, 8
 (Kü 78), kanē balukku "reeds, stalks of ḫ." points either to its
 being a Ferula, or to the custom of collecting similar gums in
 reeds, as in the case of "calamite" storax, storax thus collected
 (VK. 549). It is thus a gum in common use, almost always
 (if not always) in ext. use and in fumigations, esp. in temples.
 It is soluble in warm alcohol, and has an oil.

IDENTIFICATION: Previously with ⁵ḫ, Nerium oleander,
 L. (Holma, KIB 79: Ebeling, Arch. XIII, 9, with a query). Untenable:
 the oleander is a plant which has some medicinal value,
 but it cannot be put in the same category as the important
 drug balukku.

The obvious Semitic comparison is ~~ḫ~~ Ferula
 communis, L., growing in Galilee (BFO ii 991), waste places
 and dry hills of Palestine (Post 359). "Giant fennel" (Löw
 163) with a synonym ⁵ḫ, which agrees almost with
 kanē balukku quoted above.

The word ⁵ḫ "sonbol" (= nard, 13 No. 1237) looks
 suspiciously like ³IM.BAL (but cf. ⁵IM.BIL, § 17).
 V. Opp (ii, 308) gives ⁵ḫ as = Agrostis verticillata, Vill.,
 growing in the Hauran and Mesop. (rivers and water),
 used as fodder: Post (365) gives the form as sanbaleh

§ 17. ³GIG, KANAKTU (31), ὀπώπαναξ, Opopanax Cheir-
 onium, Koch.

(a) Simply, passim: EXT., bind (49, 1, 8), for constriction

of lungs (49, 6r.2), eyes (16, 1, 23; 50, 1, 3(?)): apply, anus (43, 1, 3): for šiggati (blains?, 51, 4, 7). Enema (56, 1, 11). INT., drink, for urinary trouble (66, 7, 17). In one of three maškiāti (41, 1 IV, 15). Quantities 2 shekels (16): 13 gur (49, 6r.2). (b) OIL, (6)

(c) ZAL.LU "fat" (6): EXT., eyes (8, 1, 17; 13, 3, 7; 19, 6, 5). For KU. GIG (58, 2, 4). (d) KU škanakti, i.e. powder, lisa (77, 5, 18)

PL.34, K.4169, 8 gives

u šu - uk - lu
 u li - bu - u
 10. zir š GIG
 š ŠAL, ŠAL
 i ku - lu
 š BIL
 u pi. PI
 15. u a-da-ma - tu

šammu ša lib š GIG
 zir š GIG [19]
 šammu zir š GIG [19]
 ka - nak - [tu]
 ka - n[ak - tu]
 ka - [nak - tu]
 k[a - nak - tu]
 [?]

L. 6 in the same text as the above gives šuklu = šammu ša lib-bi šere PL "drug from flesh" i.e., adeps, the same root as in ~~šurru~~ (clarifier, trainer? Brock. 385). "Lib(p)u = ZAL.LU "fat" (MA 469). Clearly the drug from the škanaktu is of a fatty nature.

šKulu, uncertain if read correctly, but since the det. is "tree", not "drug", it probably represents the tree from which the kanaktu comes.

PI.PI seems to indicate a strong-smelling (umbelliferous) plant (§ 10 N).

The Sum. šGIG ("aromatic plant for sickness"), coincides with škanaktu by comparison with ~~š~~ "healed".

IDENTIFICATION: In many ways it seems to coincide with Opopanax Cheironium, Koch, a native of A. Minor, one of the Umbelliferae, which, when wounded, flows with a milky juice which hardens. The use of ZAL.LU "fat" is comparable to the milky juice of opium (§ 10 G, I). "The tears are globose or angular,

fatty to the touch ... the odour is strong - Its constituents are resin, gum, and volatile oil" (PC XVI, 457). 1B (No. 459) describes جواشيب as the juice from the stem and root, laxative, purgative, used in epilepsy, for uterus, and ext. for plasters. Diosc (iii, 48) prescribes it for urinary trouble, and ext. for eyes, etc.

Πανაკις, equally with ἰατρικὴ and Kanaktu, conveys the idea of "all-healing". It is conceivable that the Greeks mispronounced the word Kanaktu, which was used by the Oriental merchants for this particular commodity, partly from a desire to pun on its meaning. For similar interchange (b. and g.) see § 11, end.

§ 18. u, i, i+š
 * SAGAPENUM: BARIRATU, Ferula Persica, Willd.,
 u, i, i+š ARGANU (similar) ** BAL-
 SAM, * * BALM OF GILEAD.

Both occur side by side in the same prescription; but in face of Rm. 367 (further), it is clear that they cannot be easily distinguished. But this similarity is not maintained in CT XIV.

Bariratu is used in AM:

Simply, only: EXT., frequently with arganu and sihu: bind (70, 7, 6: 74, 1, 13: 75, 1 iv 2: 98, 3, 11), feet (74, 1, iii 6); anoint (94, 2 ii 16: 96, 1, 15): used for mišittum (76, 3, 4: 82, 2 r. 10), swelling (73, 1, 13), ŠAK.KI.DIB.BA (19, 1, 28). Fumigate (62, 1, 6: 99, 3, 7). INT(?) (drink, if uzuriratu, kü ii, iv, 27, is to be read u-bariratu).

Arganu is used in AM:

Simply, only: EXT., bind (15, 3, 14: 75, 1 iv, 2), feet (74, 1, iii 6): anoint (88, 2 r. 9: 94, 2 ii 16): wash (48, 5, 4: 49, 1 ii 7?): used for mišittum (76, 3, 4: 79, 1, 28, 28), swelling (73, 1, 13, 31). INT., drink (88, 2 r. 9). Particularly noticeable is its use with HUM.HA to revive a man rescued from drowning (87, 6, 6).

The difference in use between the two is slight, the former being used in fumigations, the latter not. Rm. 367 (ed. Meissner, Suppl., a text which I have re-examined) gives:

| | | |
|-----|-------------|----------------|
| i š | ar-gan-nu | šū (= arganu)¹ |
| i š | mar-gu-nu | šū |
| i š | mar-gu-su | šū |
| i š | ba-ri-ra-tu | šū |

This restores § 9 BC, 2.

The det. ŠIM makes it certain that we have an aromatic here. Langdon (PBE XXXI, 1914, 73, n. 5) correctly compared $\text{K} \dot{\text{i}} \dot{\text{i}} \rightarrow$ *Ferula Persica*, Willd., *Sagapenum*, with *Bariratu*, a plant growing in Ghilani (BFO II, 991). In SM (occurring 5 ÷) EXT, eyes (II, 94, ܐܘܝܢܐ) nostrils (148, ditto), as plaster (430, ditto, 469, ditto), INT, drink ܕܘܡܝܢܐ (272, ditto) purgative (145, ditto) (419, ditto).

Bariratu ŠAR occurs MB 47-50, in the same section as *lakukanu* ŠAR, *iarukanu* ŠAR, and *kinnat andi* ŠAR.

In § 9 BC, 2, l. 2 might be restored [uša-mu-š]i-ri, but not probably: this is properly the "šihu, *Artemisia*, § 10 BA. "Margusu (2), fumigate (101, 3, 18), and in KAR 202, ob. 15, is "a drug for mouth (tooth) ... [to cleanse the mouth, without a meal cleanse his teeth"

Arganu, an-*anu* product of ܐܘܪܘܢܐ, probably ܐܘܪܘܢܐ "exhale perfume", a meaning evident in the synonym for its root, L. 55, "PI.PI-nu ša šadi (i) ("of the mountains"), since "PI.PI = odoriferous plant, § 10 N. Conceivably it is *Amyris Gileadensis*, or *A. opobalsamum*, Balm of Gilead, or of Mecca; VK 561 quotes of the latter that "the smell is at first violent, and strongly pungent, giving a sensation to the brain, like that of volatile salts." At all events it must be something of this kind to restore the (apparently) drowned. Since *bariratu* is used in fumigations and *arganu* is not, it will not be injudicious to assign *Sagapenum* (*argum*) to the former, and some

① Rm 367, r. 1 gives i š MAN.NU = arganu

balsam, such as one of the two quoted (not to be used in fumigations) to the latter. That arganu can be drunk is comparable to the other balsams (of Peru and Tolu, P. 214 ff).

§ 19. ŠIM.MAN.DU, (u) ŠMAN.DU, i.MAN.DU, ŠDU(?), "SUADU. (a) Simply, passim: EXT., bind (55, 1, 8): for feet (69, 2, 11), mišitti (78, 5, 7: 79, 1, 9): to ease šiggati (blains? 32, 5, 5): ana SA kabiti lubbu-ki (69, 8, 17): wash (94, 2 ii 10, with oil and beer): for illaku in mouth (29, 5, 16): alone, to remove eyelashes (irru, 16, 1, 2): with the gall of a black ox (or, of a snake), gall of a scorpion, gall of a pig, punpultu, ... suadu (use) these five against white hairs (4, 1, 4). Enema (56, 1, 4). Quantities: 10 shekels (84, 1, 2): 2(?) bar (42, 1, 2). ŠIM.MAN.DU is used for mišit irri (some eyelash trouble, 62, 1, 8); and ointment against "hand of ghost".

(b) "OIL" (1). (c) SEED (2), boiled in oil and beer for enema (56, 1 + 5). (d) LEAF, KAR 203, VII, 8, for KU. GIG]. (e) KU (powder) (2). Quantity $\frac{1}{2}$ ka (77, 5, 8).

It has been identified with ~~cyperus~~ cyperus (Zimmern AF 58), but I am in doubt whether this is satisfactory. It surely must be distinct from the Cyperaceae, since it is not included in § 9 ~~š~~, urbatu, etc. On the other hand, § 9 B C gives three other values "NIM, "NU.GI, and GI.ŠI.ŠAR, the latter perhaps indicating a reed.

When considered in its connection as a black hair-dye, it might be compared to ~~šgu~~ "black". It is worth noting that Nardostachys Jatamansi, DC., is used in India for growth and blackness of hair (IMP, I, 665). The KU indicates it as a powder.

§ 20. (i) ŠGAM.MA (v. ME), ŠUMLALŪ (31) Nerium odorum, Sol. (?)
GLEANDER (?)

ŠGAM.MA, passim: ŠGAM.ME (2): [uGAM. UŠ, 12, 6, 4: 82, 3, 13]. EXT. bind (49, 1, 8: 55, 1, 8: 72, 2, 6: 98, 3, 9), mouth (24, 5, 7, 12), cough (50, 3, 8): apply anus (? 42, 2, 9): anoint (94, 2, ii 16): assuage šibia mišitti (82, 2, 13), constriction of lungs (53, 4, 14). Enema (94, 2, 5). In one of three maškiāti (41, 1, IV, 2). Quantities, 10 shekels (42, 2, n. 9).

Its use is thus (almost?) entirely external, and the plant is thus probably poisonous.

The *karšu* ("cherry", § 10 CT) and the *šumlalû* are mentioned by Sargon (VIIIth century) as growing on the mountains of Sinahulzi and Biruatti, prob. E. of Lake Urumieh, "a sweet fragrance" (Thureau-Dangin, *Une Relation de la Huitième Camp.*, p. 9, L. 28). One of the most striking plants of the Kurdish hills is the Oleander with its beautiful rose-coloured flowers; ~~I do not remember~~ ~~having~~ seen it ~~anywhere~~ on the lower valleys of the Tigris. *Nerium odorum*, Sol., is the usual species growing in Persia (Hertzfeld, at Fars, *OLZ*, Beih. II, 34; Ascherson, in *Löw* 422, not *N. oleander* in Persia, but *N. odorum*). Its sweet-smelling leaves (obvious from its name *N. odorum*) aptly fit the "sweet fragrance" of Sargon. It is poisonous: in India the root is used in skin diseases and inflammations, and chancres; the bark of the root and sweet smelling leaves ext., a decoction of the leaves for swellings, and fresh juice of the young leaves for eyes.

If this is correct, has *šumlalû* any philological connection with *شجرة*, Oleander?

§ 21. *šAL*, *šIMEŠŠALU*, *BOX(?)*, *Buxus(?)*.

Rare in Assyrian medicine. In CT XXIII, 37:12:45,7 (10 shekels). Also in a list of aromatics (Johns ADD No 1074) (one shekel). Holma (KB 54) identifies it with *𐎧𐎺𐎠𐎵*, *buxus*. PC VII, 75 says that great quantities of boxwood were imported from Turkey, and that the leaves have been employed as a tonic. See *Urkarinnu*, § 32.

○

§ 22. *šBURAŠU*, *šIMDU*, *šURMÊNU*, *šKUKRU*, *šAŠUHU*, *šTIQU*, *šŠIHU*, *šZABALUM*, *šSUPALU*.

It is difficult to distinguish exactly between many of these trees. In order to identify them as closely as possible, it will be well first to see

what the possibilities are.

Post (747 ff.) gives the following coniferae as inhabitants of Syria or Palestine, with their Ar. names:

1. CUPRESSUS SEMPERVIRENS, L. (šerbîn, saru), with a variety which grows in cemeteries. ~~(There is another species, C. horizontalis, which Post does not admit)~~
 2. PINUS, the varieties being P. PINEA, L.; P. HALEPENSIS, Mill., P. BRUTIA, Ten. (Ar. šnaubar).
 3. JUNIPERUS DRUPACEA, Labill. (difrân).
 JUNIPERUS MACROCARPA, S. et S.
 JUNIPERUS EXCELSA, M. B. (lizzâb).
 JUNIPERUS FOETIDISSIMA, Willd.
 JUNIPERUS PHOENICEA, L.
 JUNIPERUS OXYCEDRUS, L. (šar šar)
 4. TAXUS BACCATA, L.
 5. CEDRUS LIBANI, Barr. (Arz Lubnan; Arz-ur-Rubb; Ibkul; Tnûb).
 6. ABIES CILICICA, Ant. et Ky. (šufî)
- For our purposes add five not coniferae (Post 206):—
7. PISTACIA VERA, L. (fistuk), the pistachio.
 PISTACIA TEREBINTHUS, L. (butm), the terebinth.
 (var. P. PALAESTINA, Engl.)
 PISTACIA MUTICA, Fisch. et Mey.
 PISTACIA LENTISCUS, L., (mastîk), the mastich.
 8. FRAXINUS ORNUS, L. (dardar), the ash.

- § 23. šŪRMĒNU (49), Cupressus sempervirens, L., CYPRESS:
- (a) Simply (25): EXT., bind (55, 1, 8): quantities, $\frac{1}{2}$ ka (55, 1, 11), $1\frac{1}{2}$ shekels (41, 1 IV, 12), $\frac{1}{3}$ mana (56, 5, r. 3).
 - (b) OIL (21): EXT., eats (34, 1, 3: 37, 2, 6, 9): anoint (42, 5, 10: 92, 1, 5). INT., drink (83, 1, 16). Enema, (56, 5, r. 3). Uncertain, breast (51, 5, r. 8): "hand of ghost"? (33, 1, 7).
 - (c) JUICE (2)
 - (d) Uncertain (1).

IDENTIFICATION: Long with شربين, in mod. times definitely the equivalent of *Cupressus sempervirens*, L. (Post, 748: *cupressus*, Forsk. EF, LVI). (In IG No. 1317, it = cedar, with "a fruit like cypress, but smaller": in PS 4327, ~~Elotze~~ has various meanings from *ἰλάτη* to cypress. In Löw 388, it is said to be the *Juniperus Oxycedrus*, L., or *κιννάμωδος*. Clearly the exact tree has been at times doubtful).

Adhering, however, to the modern Gr. equivalent "cypress" for šerbin, as the most reasonable course, we can accept the same value for šurmēnu.

Gudea brought i šu-ur-me "from above" (in contrast to the willow) (Cyl. A, XII, 5). ii R. 51, a-b, 5-6 gives the habitat of i šur-man as the Lebanon and mātu Asiandū; and as the Cedar of Lebanon is soundly identified with erinu, Cypress again seems the correct equivalent. The i šur-man was frequently used in building.

The Cypress produces a resin but no turpentine (EB VII, 693) which perhaps accounts for its being used only a quarter of the times in which i-burašū occurs. The leaves contain an essential oil and tannin (Fée, quoted BP V, 7): Pliny (NH XXIV, 10) says that they are good for serpent-bites, hernia, sunstroke, swollen testes, pains in feet and sinews. In India the wood and fruit are regarded as astringent (IMP II, 1226). The "excrecences", Pliny says (l.c.), are drunk for stings of serpents, hernia, etc., and applied to gatherings: and, pounded with the seed and mixed with oil, are used for the eyes. The root, bruised with the leaves and drunk, is used for strangury, etc., and the shavings of the wood, when drunk, act as an emmenagogue.

It would be tempting to see τρεβινθος, τρεβινθος, τρεβινθος, τρεβινθος in šurmēnu. But, if so, we must accept a mistake in the true source of turpentine.

§ 24. šIMDU, ENDU (16), "CYPRESS OF THE CEMETERIES" (a form of *C. sempervirens*, L.).

It is a Semitic word, as the different forms 'im-du (39, 4, v. 8), šim-di (95, 3, 4), 'en-di (41, 1 IV, 25), shew.

(a) Simply, passim. EXT., bind (95, 3, 4; mišitti, 79, 1, 24): apply swelling (73, 1, 4): anoint (40, 5, 7): Quantities, 1 šu (41, 1 IV, 25): 1 shekel (41, 1 IV, 14), 1 mana (49, 2, 5). (b) OIL (4, 1, 5; 41, 1 IV, 30)
 (c) Uncertain. ... imdi, anoint eye (15, 2, 3): ... šimdi, drink (78, 1 IV, 15).

IDENTIFICATION: hitherto unidentified. The clue lies in AM 4, 5 and 9, where an oil of šim-di ga-ab-ru and 'im-di ga-ab-ri, i.e., "imdu of the grave" occurs. The only aromatic tree probable in this connection is that form of the Cypress, *Cupressus sempervirens*, L., always associated with cemeteries from the earliest classical times, and to be seen thus in the East to this day (v. Chesney, Exp., I, 379). "In Turkish cemeteries the cypress is the most striking feature, the rule being to plant one for each interment" (EB VII, 694). Post (748) speaks of the "compact variety" (of *C. sempervirens*) "with a cylindro-conical conus", everywhere cultivated under the name of Saru in the cemeteries.

Imdu, like Тѣтъ, a pillar, from тъ "to stand", obviously refers to the erect character of the cypress, like the Lombardy poplar. It was apparently not used in Assyrian buildings, perhaps on account of its funereal associations.

With the elimination of the two cypresses which Post allows for Palestine, we can proceed to the difficult burašu and kukru.

§ 25. ŠLI, 'BURAŠU (202), Pinus, PINE, PINE-TURPENTINE

(a) Simply, passim ('burašu att): EXT., eyes (12, 4, 8, 11, 14, 3, 3); ears (34, 1, 5, 13; 38, 4 ii 5), feet (69, 7, 4; 74, 1 iii, 2, 8; 75, 1, 18), breast (26, 3, 3) cataplasms, various (49, 1, 7; 55, 1, 8; 72, 2, 4; 73, 1, 25; 98, 3, 9; Ku ii, iii, 62), temples (102, 1, 41), swellings (73, 1, 18), mišitti (77, 8, 9; 79, 1, 18), swollen muscles (SA. MEŠ. 21. MEŠ), of hands and feet (98, 3, 16), sualu (cough, 50, 3, 2, 8; 80, 1, 20; 41, 80, 2, 7)

"hand of ghost" (seizure, 93, 1, 13, 15): apply anus (48, 1, 3: 94, 2 ii 7: 101, 3, 4). INT., drink (39, 6, 9 for kidneys), jaundice (Kü iii, iii, 8, alone), seminal complaint (drink?, 58, 6, 5): eat (27, 2, 9): Enema (43, 6, 6: 58, 1, 4, 10, 14: 94, 2, 4, 7). For illatu in mouth, unstop-
ped (31, 4, 9), ka. dib. bi. du (78, 1, 28). Fumigate ears (33, 1, 31: 34, 5, 6: 35, 1, 7: 38, 2 r. 9)

Niknalku ^šLI, more rarely ⁱLI, not uncommon.

Quantities: $\frac{1}{2}$ mana (51, 8, 10), $\frac{1}{3}$ mana (56, 1, 14, cf. 43, 5, 9), [10 shekels] (57, 3, 7, 10), 15 bur (49, 6, 11), 1 shekel (40, 1, 82), $\frac{1}{2}$ ka (73, 1, 8)

(b) šLI (b) INT (32, 5, 8): hinitli KU.619 (40, 5, 18): eyes (0, 1, 17: 19, 6, 5, 10). (c) Oib (4) (35, 2, 10: 44, 1, 7: 87, 1 r. 9, 12).

(d) KU (powder) (1) (96, 1, 9, dissolved in alcohol, used as plaster): KU.3E (1) (54, 1, 8, fumigation).

IDENTIFICATION: the commonest drug in the Assyrian Pharmacopœia. Already long identified with 𐎶𐎵𐎲, "pine" or "cypress". The Phoen. 𐤍𐤃𐤁 𐤍𐤍 (𐤍𐤃𐤁 𐤍𐤍) = Πιτυουσα "Isle of Pines" (Robertson Smith, Prophets, IV, n. 20) is indicative. Pliny (NH 11, 39) says that the *bratus* (= βράτου, 𐎶𐎵𐎲) grew in the Zagros mountains, and the wood was imported from the country of the Elymaei (Elam), and that it was like the Cypress, with a wood which emitted a pleasant smell when burnt. The locality agrees exactly with the Assyrian statement that Hana (in the mountains E. of Baghdad) was celebrated for its *burašu*-trees (II B, 51, a-b, 10). Sargon, (VIIIth century) speaks of the mountain of Mallau (in the neighbourhood of Van) as *šad šburaši* "the mountain of *burašu*." (Thureau-Dangin, Une Relation, 29, 169). Diosc. (I, 100) says that there are two kinds of βράτου, one with leaves like the cypress, the other like the tamarisk. The *burašu* is well known in Assyrian buildings.

The problem is to settle whether it is Cypress, Pine, or Fir.

We must surely rule out the Cypress as already settled by šurmēnu and imdu: the only question then is, which of the two, burašu or kukru, represents the products of pine or fir.

One point is distinct. Besides 'L1 = burašu, we have also 'L1.UD = šiḫu or šīḫu, "white burašu". On the other hand we have kukru (as will be seen in § 26) the product of ašuhū. Šiḫu (M. 13, 2, 17, ii 20) = ~~𐎶𐎵𐎶𐎶~~ (ib. p. 36) translated by ~~ἄλσν~~ (Septuagint, PS 2610) = ~~αζγῖ~~ (Dozy, 798, pin, sapin) = the modern šuh, abies (Post).

We are thus faced with this problem: Assyrian provides two definite kinds of L1 trees, a white one and another, as well as an ašuhū: but the Assyrian word for one of these L1 trees (the 'L1.UD) is apparently the equivalent of the mod. Ger. "fir".

But Post gives only one species of fir for Palestine, and three pinus. We must therefore accept the probable equivalence.

Now 'ŠE.L1.UD is definitely given as kirkiran buraši, (SAL ii 3558), which at once throws doubt on 'L1.UD as a "fir". Again, šiḫu is given as the equivalent also of [ER]M.SUD (M. ib., 21, 43), which again makes "fir" suspicious. We shall be justified, therefore, in accepting 'L1 and 'L1.UD as of the same species (pinus), and ašuhū (§ 26) as fir.

In this case we may see in ~~αζγῖ~~ a descendant from ašuhū^①.

① A curious point is whether the 'L1, which is by far the most frequent of the substances burnt religiously, is the wood or the gum. A tablet of Cambyses' reign (Strassm. 126, 2) mentions "8 mana riklê, 1 of ballukku, 18 ka of burašu" for the Censer of the Sun-god. From the comparatively small quantity, it can hardly be the wood. Notice also "2 ka of honey, 5 ka of karḫu (cherry-gum), 5 ka of burašu" (VA Th. 721).

After $\check{\text{S}}\text{E.LI}$ we must discuss $\check{\text{S}}\text{E.LI}$ (doubtless the same as $\check{\text{S}}\text{E.SIM.LI}$ in (e)) = $\check{\text{K}}\text{irkiranu}$, and $\check{\text{S}}\text{E.LI.UD}$ = $\check{\text{K}}\text{iranu}$ - $\check{\text{b}}\text{urášu}$ (SA 3557, 3558). $\check{\text{K}}\text{ü ii, ii, 34}$, doubtfully translated "cypress-apple." $\check{\text{S}}\text{E.LI (I) (59, I, 26)}$ drink, and ($\check{\text{K}}\text{ü iii, iii, 7}$) drink alone for jaundice. Now $\check{\text{K}}\text{irkiranu}$ may either be a spherical thing, like $\check{\text{K}}\text{ü ii, ii, 34}$, i.e., the pine- or fir-cone, or it may mean something that rolls, a drop: or, accepting $\check{\text{K}}\text{irkiranu}$ as its more correct form, less probably an -anu form from $\check{\text{K}}\text{iski(r)ru}$. $\check{\text{S}}\text{E}$, often used as "corn" and so, a small measure, occurs similarly in $\check{\text{S}}\text{E.Ü.KU}$, which on the analogy of $\check{\text{S}}\text{E.LI.UD}$, must be the $\check{\text{S}}\text{E}$ of the $\check{\text{Ü.KU}}$ (= $\check{\text{a}}\text{šuhu}$, $\check{\text{L}}\text{ammu}$, a conifer, see § 26). But $\check{\text{S}}\text{E.Ü.KU}$, $\check{\text{A}}\text{N.NA.Ü.KU}$, and $\check{\text{P}}\text{A.Ü.KU}$ all = $\check{\text{S}}\text{i(p)patu}$ (M. 13, 2, 17, 8 ff) (see on this passage § 26). $\check{\text{S}}\text{i(p)patu}$ must surely be $\check{\text{K}}\text{ü ii, ii, 34}$ "pitch", which presumably clears up $\check{\text{K}}\text{irkiranu}$. This must be the $\check{\text{K}}\text{ü ii, ii, 34}$ gum, in tears, or perhaps $\check{\text{K}}\text{ü ii, ii, 34}$ tar.

$\check{\text{S}}\text{E.LI.UD}$, 14 lb. in AM, is prescribed EXT. for anus (94, 2 ii 7): INT. drink (83, 1, 16), and alone in beer for a motion ($\check{\text{K}}\text{ü ii, i, 45}$). In one of 3 $\check{\text{m}}\text{aškiāti}$ (41, 1, IV 3), with $\check{\text{K}}\text{uleru}$ and $\check{\text{b}}\text{urášu}$ in sursomme... (82, 2, 8) shewing that $\check{\text{S}}\text{E.LI.UD}$ is distinct from $\check{\text{b}}\text{urášu}$. Quantities, 2 shekels (90, 1 r. 8), 3 shekels (41, 1 IV, 15).

These $\check{\text{m}}\text{aškiāti}$ may therefore be summed up: $\check{\text{b}}\text{urášu}$ is, I think, certainly "pine" (not cypress) $\check{\text{L}}\text{I.UD}$, a white species of pine, most probably $\check{\text{P}}\text{. Halepensis}$, Mill, which is known in French as "Pin blanc" (GM, 456). $\check{\text{K}}\text{irkiranu}$ would appear to be $\check{\text{K}}\text{ü ii, ii, 34}$ gum, pitch or tar.

§ 26. $\check{\text{A}}\text{šuhu}$ (2) abies, FIR: $\check{\text{S}}\text{E.GAM.GAM}$, $\check{\text{K}}\text{URRU}$, FIR-TURPENTINE (193): $\check{\text{S}}\text{E.Ü.KU}$ (I) ($\check{\text{S}}\text{i(p)patu}$) PITCH (86, 1 iii, 4).

① Can we see a reduplicated form of $\check{\text{K}}\text{IRU}$ in $\check{\text{K}}\text{irkiranu}$?

Kukru, the second commonest drug (after burasû), is constantly compounded with burasû in the same prescription. It has been translated, I think erroneously, and a little ridiculously, "chicory", from the similarity of sound (Jastrow, Trans. Coll. Phys., Philadelphia, 1913, 380: Ebeling, Archiv. XIII, 9: Meissner, Bab-Ass., 21).

ŠGAM.GAM (=kukru) occurs (a) simply (almost always with the det. SIM, though ū "drug" does occur (38,4 ii 11).

Passim: EXT., bind (2,1,22:15,3,13:22,2r.11:25,4,6:29,5,6:37,7,4:49,1,7:52,3,3:54,1r.7:72,2,6:73,1,26:84,4iv,2:96,1,18:98,3,8), on head (93,1,15): temples (4,6,2): breast (26,3,3): lungs (49,6,1:53,4,11:55,1,8): sualam (cough, 50,3,8): anus (43,1,3:101,3,4): mouth (or tooth) (24,5,7:28,9,4:78,1,28): ears (33,1,24,38): eyes (12,4,11:14,1,70:14,3,3:16,1,15:19,6,5): swelling on heel (73,1,18): mišitti (76,5,7,9:77,8,9:79,1,6,18:82,2,8): šiggati (blains?, 32,5,8,10,12). In unguents (74,1 iii,7:75,1 iv,4:94,2 ii 16:96,4,5): eyes (17,6,4:19,6,8,12): feet (69,2,10:69,7,4:74,1 iii 2:75,1,18). Fumigate, ears (33,1,31:34,5,6:35,1,7:38,2 r,9) wash patient (94,2 ii 9). INT., drink (4,4,4?:45,1,6:89,1,5). For foul breath (26,6,11: KAR 203,67): to stay illatu in mouth (29,5,6:31,4,19). In Enema (43,6,6:56,1,10,14, r.7:94,2,7,9:Kü ii, iii 7). Quantities, 1 šu (41,1 iv 25), 15 bur (49,6 r.1) $\frac{1}{3}$ ka (17,8,3), $\frac{1}{2}$ ka (53,4,11). [10 shekels] (42,2 r.9:57,3 r.9) $\frac{1}{3}$ ma (na) (43,5,9). (b) SEED (1) ears, (38,4 ii 11).

(c) "WATER" (=tar-water) and dates (43,1, ii 9).

(d) KU (powder, =resin) cataplasm (96,1,9)

(e) OIL (4) (22,2 r.8:45,1,3,7:76,2,7).

There are three forms in Sumerian: i šKÙ.KÙ (SAI 3538), i šMIR.MIR (SAI 3553), i šGAM.GAM (SAI 3545): once written in Assyrian ku-ku-ru (CT. xvii,38,39).

The clue to its identification lies in Maqlû VI,35 ff: (35) šiptu. šKukru šKukru (36) šKukru

... ina šadāni^{pl} ellūti^{pl} kud-du-šūti (37) mārē^{pl} tir-
 hu ša e-ni-ti (38) mārē^{pl} i šē.ū.ku^{pl} ša ka-aš-da-
 a-ti : "Incantation : O kukru, kukru, kukru! ... in
 the pure, holy mountains children thou hast spawn-
 ed of an enitu, children the tar of the high
 ones (?)".^① As I shewed in § 25, i šē.ū.ku is the sippatu,

𐎧𐎠𐎢𐎠 (pitch, tar) of the conifer ū.ku = ašuhu,^②
 which is 𐎠𐎢𐎠𐎢𐎠 (Ball, PSBA 1887, 127). The ašuhu is
 a tree growing in groves (M. 13, 2, 20, 7): Gudea cut
 them down in the mountain of Ibla with zabalam
 trees (= juniperus excelsa, see § 27) and tulubum
 (platanus), using them for buildings (ISA 109: cf.
 151, where they are mentioned with cedars and
 cypresses; and 155). PA i a-šū-hi (62, 5, 9) and
 PA i ū.ku (36, 1, 19) indicate the "juice", i.e. gum.

Ašuhu (𐎠𐎢𐎠𐎢𐎠) is supposed to be some kind
 of cedar, but the true cedar is erinu. It is much
 more probably one of the other conifers (see § 25).
 From this we can proceed to define kukru.

Kukru, from the passage in Maqlû is clearly
 closely connected with ašuhu: the det. i šē shews
 it to be an aromatic tree: the frequency of kukru
 in AM (as second commonest drug) shows it to
 have been common and easily obtainable.
 Its frequent connection with, and proximity to, burāšu,
 would suggest its similarity: and an examination
 of the drugs, which have been identified with
 the different trees, will shew that the fir is
 the tree of high importance for which no equi-
 valent has been found. The equivalence
 ašuhu = fir, abies, seems most satisfactory;
 kukru will then be its turpentine or similar product.

^① Parallel to "Earth, Earth, Earth!" (ib. I, 37). "Enikum = MA.NU
 (ii R, 23, 28, e. = murrānu, 29, and gišnū 30), or it may mean "princess".
 Cf. 𐎠𐎢𐎠𐎢𐎠 = حب الجوز (Löw 58) ^② Or Lammu, ii R, 23,
 20 f. Juice of Lam-me in wine (69, 1, 18).

Is there an echo of kukru in κόκκωλος?

Next, šGAM.GAM must surely survive in the كوكام of IB No. 143i, 1973, supposed to be terebinthine, although, according to him, some say it is the gum of the Lentiscus (P. lentiscus, mastic), others its bark. It may survive in the κόκκωλον of Pliny (NH XII, 41) a gum-resin. Everything points to our being on the right track of the meaning of kukru. We can eliminate the value P, terebinthus for šGAM.GAM, since this is the equivalent for GLAM.MAR (§ 36).

Next we have šGIL = ti(?) - ru, tu(?) - ru (SA 3568, 3570; M/3, 18), which under the form u šGIL = šammu ša lib šE.LI.UD, "drug from the midst of the Pinus Halepensis" (PL. 34, K. 4169, 7). Tiru is confirmed from ii RA 1, 24 šti-ri = ditto (i.e., uršitu) a-su-u. šGIL = šahatu, turu, CT XII, 25, 46 b, 45 b). šGIL is used in AM thus: —

(a) Simply, passim: EXT., bind (39, 1, 4: 54, 1 r. 7: 70, 7, 4: 84, 4, IV, 2): ears (34, 1, 15 (almost certain), 34), mouth (24, 5, 7) eyes (8, 6, 6: 16, 1, 15), šiggati of cold (chilblains?, 32, 5, 13) [swelling] (73, 1 ii 2). Fumigate (64, 1, 21: 99, 3, 10). INT., drink (57, 6, 4). Quantities, ½ gički (41, 1, IV, 17), 1 šu (ib. 14). (b) ZAL.LU šGIL (40, 5, 10) on anus with ZAL.LU (fat) of opium and gum of šHAL.

Boil šGIL in water (hyoseyemus being given in a gloss as an alternative, 54, 1 r. 3); boil alone with honey (31, 8, 13): "when a man's asida^① purru^① lu-ut-ta-a, for which earthworms are to be mixed with oil and bound on (cf. my article PSBA 1910, 292, for worms steeped in oil to be rubbed on rheumatism, in Anatolia): ib. 23 enuma NA asida-šu GIHA.A marša, to which urine is to be applied (an old soldiers' remedy for blistered feet). Ebeling; "Mittelfußknochen, Spann." probably correct (Arch. XIII, 132).

šGIL UD.DU GAZ ina URUDU. [UN.DU...] ina mē kašî tarbak LAL," i.e., it is to be pounded and treated with rose-water, and then bound on (75, 1, 17, 17)

In IB No 1421 *g* is said to be the lentiscus, and the gum is like that of the terebinth and called *g* (probably, as I mentioned above, our šGAM.GAM). The common people say it is a terebinth. *g* today is the lentiscus (mastic). If *g* = *g*, as is probable, it appears that the only difference is in the former being Pistacia lentiscus (or perhaps Terebinthus), the latter (as šGIL, the aromatic wood) being from the gum of the *i*LI.UD (Pinus Halepensis). Turu (*g*) can hardly be the *g* of Löw 191 (M. '13, 2, 36).

We may sum up these two sections 25 and 26 in the equivalences: *i*LI (burašu) pine in general;

*burašu, pine-turpentine, *i*LI.UD, Pinus Halepensis, ššE.LI.UD, gum or tar from the same; *i*ašuku, fir, šGAM.GAM fir-turpentine, ① ššE.Ü.KU gum or tar from the fir: šGIL = *g*, gum of the P. Halepensis, or, if the Arabic be followed rather than the Assyrian, mastic, or the gum of the terebinth.

It is unnecessary to say that turpentine and similar drugs are obtained, not only from the pine, but also from other conifers (as well as Pistacia terebinthus, § 36). For convenience I add here the modern uses of turpentine, etc (obtained from the pine, P. 908, 1006, 1199).

Turpentine oil is antiseptic, haemostatic, diuretic, anthelmintic: antispasmodic in hysterical affections and hiccup: said to dissolve gall-stones: inhaled in bronchitis: enema with castor-oil: (much used in India (WBM § 395)). EXT., rubefacient, liniment in rheumatism. Tar is somewhat similar in its medical properties (cf. the great vogue of "tar-water"). Resin is antiseptic, slightly stimulant,

① In the time of Nebuchadnezzar a shekel would buy 20 $\frac{1}{2}$ ka of šburašu, and only 10 of kulru (Scheil, RA XVIII, 97).

used in plasters and in strapping wounds: ointment for ulcers: not used internally (but IMP 1233 gives the resin of *P. longifolia*, Roxb., as stomachic and for gonorrhoea). In older medicine (FHS 627, ff.) turpentine is used for bleeding of the lungs, congestion of the kidneys, cough, and epilepsy.



§ 27 (cf. § 9 C5, 10 C5) ⁱZABALAM (4), ⁱZABALUM, Juniperus ^fexcelsa, M. B.: ^uGIL (18), ^uSUPALU (3) ⁱSUPALAM.

Since both ⁱZABALUM (Gudea, ISA, 150, XII, 5, etc) and ⁱZABALAM occur, it must obviously be a Semitic word. Gudea brought these trees from the mountains for use in building, along with ^uviru (cedar), ^usurmonu (cypress), ^uasuku (fir) and ^ululubu (plane). Obviously it is the Ar. ^lizzâb Juniperus excelsa, M. B. (Post 749) by a common metathesis of l. It grows in alpine and sub-alpine regions.

Noticeable, however, in AP4, is the ~~great~~ difference of use between ^uiZABALAM (4) and ^usupalu (3). The former is bound on (12. 113.5: 15, 3, 13): for ^umisitti (77, 2, 1). The juice is used (3, 7, v 5). But ^usupalu is ordinarily used int., (although it is used for ^umisitti, ext. 1), and ⁱsupalam is bound on (90, 3, 0). drink (18, 4, 4: 21, 4, 2: 36, 2, 13: 56, 4, 2). for dyspnoea (59, 1, 36, 46?) stomach (38, 1, 43). used for foul breath (25, 1, 38), constriction of KU.GIG (40, 5, 17), for maska (31, 1, 6); ^usupalu in oil (277). Quantity $\frac{1}{3}$ ka (6, 3, 17). 2 shekels of ^usupalu (its leaf) for foul breath (25, 6 ii 9). Curious in ^usupalu (1) kalbu iluNIN:G1. 21. BAR.RA ?-tu-u hi-bi (KAR 203, VII, 20), to be continually drunk in kurunnu and oil (alone): occurring as ^uGIL ša kalbu ^uGu-

Supalu = 'ZA.BA.LAM (CT XVII, 38, 39-40), erinu "cedar" (ii R 23, ff. 22), and PL 45, K. 4152, "supalu in the left half of a column precedes 'tiya[ru] and 'liya[ru] (both = Juniperus Oxycedrus, § 30). But its equivalences are still more various on PL 46, K. 4184, 1-17:-

| | |
|-------------------|------------------|
| u ša-mi i(?) | [u su - pa - lu] |
| u hal-bi e-si-e | u [su - pa - lu] |
| u IN. NU. UŠ | u [su - pa] - lu |
| u GIL | u su - pa - lu |
| u NAM. TA. E | u su - pa - lu |
| u KI. AN. ŠIS. KI | u su - pa - lu |
| u NIGIN | u su - pa - lu |
| u gab-lu-lu | u su - pa - lu |
| u AN. ŠIR. KU | u su - pa - lu |
| u NIM. TA. E | u su - pa - lu |
| u su - pa - lu | - tu |

If "supalu" is to be conceded an exact equivalence of 'ZA.BA.LAM at some time, it must have had an ultimate expanded use. Yet although this vocabulary shows a diversified use, its employment in AM is that of a particular drug (gum). For the present we must accept ~~"gum of Juniperus excelsa"~~, with a philological comparison perhaps with 𐎗𐎎𐎍 "kernel" (or as Jastrow, "scrapings", which would be more in keeping with "gum": cf. § 106, on kannašû).

The character GIL probably = something round, i.e., here the little round globules of gum. Cedar-resin is similar to the globules of mastic (EB, V, 595).

We can take the vocabulary in detail:-

1. "drug of ... tree(?)" is indicative. Cf. "ša-mi i(?) ...", followed by "supalu", PL 40, K. 141087, 8.
2. In "halbi of esi", halbi appears similar to ~~𐎗𐎎𐎍~~ "milk" or "gum"; but since halbu is not used for milk in Assyrian, the derived

use "gum" seems more satisfactory. *Esî* may be a tree: cf Meissner's restoration *e(?)*... for *'SAG.DU(SAI 2318, CT. XIX, 42, 10, and cf. § 9 CJ, l. 584 "zîr kaka-danu)*.

3. "IN.MU.UŠ, see Index sub "maštaka"

4. "GIL, presumably distinct from *'GIL* (§ 28), and *šGIL* (§ 28). *'GIL* = pagratum = "gall" from the dwarf-oak. But this oak of Kurdistan also provides a manna: is this "GIL"?

R. 1. "NAM.TA.E, and "NIM.TA.E (r6), probably the same. "NAM.TA.E, § 9 CG, l. 635. The "E" perhaps refers to something coming forth, an exudation.

R. 2. "KI.AN.ŠIŠ.KI, cf. "KI.AN.UD and "KI.AN.MER (SAI, 7313, 7314). It = "asupimtu, l. 586.

R. 3. "NIBIN.ŠAR: bind on, with others, "top of stomach" (Kü' ii, iii, 21).

R. 4. "Gabbulus, so strikingly like 𐎠𐎢𐎽𐎢𐎠 "clough," that there may be some connection. A common Persian sweetmeat is wheat-flour kneaded with manna into a thick pasta, and round cakes made ^{partly} from manna from *Astragalus florentulus* are sold in the bazars (EB, xvii, 587).

§ 28 (= 9 CJ, 2) *'GIL*(7), PAGRATUM, galla, GALL-NUT.

(a) Simply (4): for too much saliva (31, 4, 11): use for "constriction" (65, 1, 11): apply eyes alone (16, 1, 4)

(b) SEED (1) (25, 1, 4).

(c) ŠE.AU (1) (69, 8, 9).

As was mentioned in § 27, this appears to be distinct from *supalu*. *'GIL* = pagratum = "gall-nut" (Thureau-Dangin, RA 1920, 27 ff.), in receipts for tanning with alum and *'pagrati* "of cultivators of the land of Hatti" (cf. my chapter in Woolley, *Carchemish II*). Galls in India are used for diarrhoea, dysentery, prolapsus of rectum,

piles, gleet, throat and fevers (WBM § 187).

§ 29.A. 'MA.NU, 'ERU (Laurus nobilis, L., BAY-TREE.

- (a) Simply (7): fumigate ears (33, 1, 35: 38, 27, 1). Drug for KU.GIG (KAR 203, VII, 2). (b) SEED (21): ointment (96, 4, 4), "hand of ghost" (94, 2 iii 5): apply eyes (12, 4, 5: 18, 7, 3?): bind on temples (102, 239): bind on (92, 5, 15). Fumigate (91, 1, 7), ears (33, 1, 28: 38, 1, 5), eyes and temples (12, 4, 7). INT., drink (76, 1, 13, 21, 25, 27 hand of ghost), stomachic (76, 1, 16) and some female ailment (KAR 194, 7, IV 8), use uncertain, pain in kablâti (52, 6, 7). (c) JUICE (4), EXT., feet, etc. (74, 1 iii 5): eyes (13, 6, 2). (d) [šē.R]Ū (1) (92, 6, 6). (e) ROOT (2), ointment (13, 1, 4): fumigate ears (33, 1, 30). (f) 'PA ša 'MA.NU "a stick of exi (101, 2 iii 8).

It has been identified with ~~eri~~ "tamarisk".

But there is every probability that 'bînu = tamarisk (§ 31), and the two appear to be unconnected.

The vocabularies keep eru and bînu distinct:

'šinnu = 'bînu, 'qumalu, 'kipuvalu (Br. p. 131), as distinct from 'ma.nu = 'eru, 'erinnu (Br. p. 208).

AM gives prescriptions in which the two are side by side: "[juice of] bîni juice of 'eri" etc for eyes (13, 6, 2); "seed of 'bînu, seed of 'eri" etc. (4, 6, 10). The distinction is similarly kept in omens (Boissier BA 76, II. 22, 22).

It is most suggestively written 'e-ri (M 13, 2, 20, 9), which at once suggests that the alternative identification with ~~eri~~ "laurel" is the correct one. The use of Laurus nobilis, L., coincides with AAA: the leaves and fruit are aromatic and stimulant: it is a reputed narcotic, the leaves being said to be diaphoretic. An oil is made from the berries. It was formerly used for colic and amenorrhoea (BMP No. 221). The shrub is found in Gilead, Carmel, Tabor (FAP 113), Palestine (Post 700), A. Minor (BMP 16).

§ 29 B ⁱŠIWIG, ^uBĪNU (106), Tamarix, TAMARISK.
As ^ueru has been identified with tamarisk, it is as well that this should follow it.

ⁱBīnu in AM (a) simply (26): EXT., bind (98, 3, 8: 50, 3, 2, for cough): apply (mišitti, 77, 8, 10), swelling (100, 3r, 13): rub feet (69, 2, 5: 70, 7, 10). INT., drink (76, 1, 16: 89, 1, 2: 97, 6, 3). It glosses ⁱBAR.HUŠ (16, 1, 5). ^uBīnu, for mišitti (76, 5, 9: bind 76, 1, 12).. (b) SEED (43), EXT., anoint (93, 1, 3: 95, 2, 11, 10: 97, 4, 11: alone in beer and oil, 29, 1, 8: Kan! of ghost 94, 2ii 14): apply eyes (14, 5, 7: 18, 9, 3?): feet 74, 1 4): bind (79, 1, 27, mišitti), temples (102, 1, 39: 104, 1, 16). For mouth and illatu (29, 5, 19: 31, 4, 11). INT., drink (89, 1, 2) for stomach (38, 1, 8: 76, 1, 16), "hand of ghost" (76, 1, 13, 20, 23, 25), jaundice (alone ki iii, iii, 16?), dyspnoea (alone 59, 1, 20: with about 40 others 59, 1, 38). Fumigate (94, 2, 12: 99, 3r, 6, 9, 13: eyes and temples 12, 4, 7). Quantity, 2 shekels (90, 1r, 8)

(c) JUICE: EXT., mouth (24, 5, 8), foot (75, 1, 20), head (1, 2, 19), swelling (73, 1, 12, 33): venereal, by tube in penis (58, 6, 7): appar. venereal (32, 1, 12). INT., drink (91, 5, 5). Uncertain use, stomach (45, 6, 8). Quantity, $\frac{1}{2}$ ka (53, 4, 4). (d) LEAF (4): eyes (9, 1, 32).

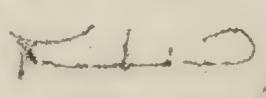
(e) ŠE.RÙ (1) fumigate (91, 1, 7). (f) "WATER" of ⁱBīnu, as medium for mixing (14, 5, 4): for washing eyes (14, 3, 8). A ^hil ⁱBīni exists, the "gum", apply alone to neck (KAR 203, 39). ①

(g) ROOT, for quraštu, with root of ⁱBAR.HUŠ and raw meat (17, 1ii 6). (h) "2 šuhuru (SA 1 652) ša ⁱBīni ša ⁱPA ša ⁱMA.NU" (101, 2iii, 8). M^o04, 203. (i) "In a Giš, Liš of ⁱBīnu let him drink" (89, 1, 10) (j) "In a fire of ⁱBīnu (37, 10, 2).

① Hdt VII, 31 mentions the city of Callatêbus, where honey was made out of wheat and tamarisk-fruit

The length of one *i-bînu*-pole is given as 6 ammatu (cubits), contrasted with 12, 11, and 7 cubits of *šašuku* poles: i.e., the *i-bînu* averages $\frac{3}{5}$ the height of the fir (De la Fuye, RA 1919, XVI, 6). It is possible to interpret IV R 27, a. 5 (*i-bînu ša ina mušarê mê la ištû*: "i-bînu which hath not drunk water in a garden") as indicating that it was not planted in gardens. CT XV, 27, 42 (Zimmerman, Sum-Isab. Tammuz-Lieder 235) "in a *šarbatu*-tree (**styrax*) he lies, with woe is he sated in a *šINIG.A* (*i-bînu*)-tree he lies, with sorrow is he sated," presumably in the shade. Maglâ IV, 39 prescribes that little figures be made of *i-bînu*, *erînu*, and ZAK.LU.

It is thus a tree, $\frac{3}{5}$ the height of the fir, not growing in gardens(?), used for fires (i.e. plentiful locally in Assyria, and of no value for fruit), from which a *Biš. kiš* could be made. It provides a drug very common in AM.

The old comparison  which is given the value of tamarisk (although a little doubtfully, Löw 71) seems to fit admirably. *T. Gallica*, L. (Arab. *جوز* ①) common throughout India, yields galls, used internally for dysentery and diarrhoea, and locally for ulcers. It has also a manna. *T. Orientalis*, Vahl (Ar. *Jil*) produces smaller galls, and is astringent, its bark bitter (WPI 29), and grows from 10-20 feet high in Persia and Arabia (PC XXIV, 24). The twigs of *T. dioica*, Roxb., are astringent (MPI, 140). In Mesop. the tamarisk grows in copses, never very tall; in the E. Sudan the branches are the height of a camel-rider. Culpeper (21) speaks of the tamarisk being used for toothache.

① Cf. Assyr. *šarpiṣu*, Meissner Bab. Ass., 211.

§ 30. ERINU, Cedrus Libani, CEDAR OF LEBANON (148).

(a) Simply, frequent: EXT, bind (55, 1, 8), apply head (1, 2, 7: 35, 5, 8): ears (34, 1, 13: 36, 1, 13): anoint (92, 1, 5, limbs) for hand of ghost (94, 2 ii 17: ? 33, 1, 7): chilblains (32, 5, 13): wash (98, 3, 3). Fumigate ears (33, 1, 21: 35, 1, 7: 98, 2, 9). Used for kurara (5, 5, 8): cough (80, 1, 19).

Quantities, $\frac{1}{3}$ ma (43, 5, 9): 1 shekel (41, 1 iv 12), 4 shekels (10, 2, 2): 10 shekels (57, 3 + 11: 79, 5, 5).

(b) "BLOOD" (BAD, DĀMU), frequent: EXT, ears (33, 1, 40: 35, 3, 4: 37, 2 + 4): head (1, 2, 16): temples (103, 1, 17). Fumigate (91, 1, 16: 99, 3, 13).

(c) OIL, frequent: EXT, head (4, 2, 5: 5, 1, 4: 105, 1, 13): temples (7, 6, 5), ears (37, 2, 6, 9): eyes (10, 3, 30: 14, 7, 2: 16, 1, 24): nostrils (26, 1, 4: 26, 2, 8): rub feet (69, 2, 5: 70, 7, 11). Fumigate nostrils (54, 1, 9).

(d) KU (powder = resin) (2) ears (34, 5, 4).

(e) "Fire of erinu-wood" (21, 3 ii 6: 75, 1, 21).

(f) JUICE (?) (68, 1, 11).

IDENTIFICATION: long with ~~58~~ cedar (not Pistacia vera, as Von Oefele thought, ZA xv, 111). Large forests exist on Taurus and Anti-Taurus (EB V, 595): its ancient habitat, from ii R 51, a-b, 3-4 was on Amanus and in mālu Hasur, the latter place also given in Šurpu IX, 42-ff (Dhorme, RT, 1907, 125), where it is said that its perfume fills the land.

The resin of the cedar is similar to mastic, and the manna is a sweet exudation from the branches (EB, ib.) Pliny (NH xxiv, 11) speaks of an oil extracted. IMP ii, 1237 says that Cedrus Libani, Loud, is closely allied to C. Deodara, Hook, which yields a coarse, very fluid turpentine (probably the "blood" of AM), used in India for ulcers and skin diseases. The wood is pounded and applied in headache.

Two groups spelt with the same ideogram occur in Assyrian: (1) ERIN.BAD, in AM simply, EXT.

Hands and feet (98,3,13): Blains(?) (siggati, 32,5,14): wash (94,2,ii 10). Fumigate (91,1,14). Enema (56,1,5). It does not occur in grammatical lists, and it may well be that it means no more than "old cedar", not improbable in consideration of the great size and age of these trees.

(2) ¹ERIN.BABBAR.RA "white cedar", = liaru (CT. XVII,38,39), not in AM. liaru, obviously curious as a Semitic word, must surely be the Assyrianized form of Ar. lur'ar, Juniperus Oxycedrus, L., which yields "cedar-oil", official in most European pharmacopoeias (EB XV, 557). Since ¹ERIN.BABBAR.RA also = ti-ia-ar (iIR 23,24f); liaru must also = tiyaru. Add also (ib 23) ¹ERIN = ti-ia-yum.

§ 31. (1)(u)(š) DAPRANU, DUPRANU (10) JUNIPERUS DRUPACEA, Labill.

(a) Simply (5), in one of three maškiati (41,1,IV,1): for breast (51,5 r. 8). Quantity, 1 shekel (41,1,IV,12).

(b) OIL (2), ears (35,2,8). (c) SEED (1), fumigate ears (33,1,28).

Long identified with the Arab difrân (see MA 264). Found in Lebanon, Akher Dagh, and northward (Post 748). Its fruit and oil are carminative, stimulant, and diuretic (IMP II, 1227).

§ 32 ¹š_QIR, ¹ASU, (14), Myrtus communis, L., MYRTLE.

(a) Simply, passim: EXT., fomentations (49,6 r. 2: 98,3,9). INT., drink (83,1,16). Fumigate ears (34,5,6). Use for mouth and illatu (29,5,16). Quantity 15 bur (45,6 r. 2). (b) OIL (98,2,7).

IDENTIFICATION: long with ~~š~~ ← Myrtus communis, L., common on the hillsides of Palestine (Post, 319), Mediterranean region (EB XIX, 115), Fars (Herzfeld, Beih. II, 34). Gives a transparent aromatic oil, which appears to lessen expectoration (cf AM above, 29,5,16): in ancient times the branches and berries were

infused in wine (EB loc. cit.) In SM about 1% (e.g. fomentations: i, 433, 684). In India the leaves are used in dyspepsia, for stomach and liver, and a decoction as mouthwash (IMP, I, 551).

Doubtless, although it is not definitely expressed the oil is indicated in AM (like *burāṣu*)

○

§ 33A. *URKARINNU*, *BUXUS*, *BOX*

= *𐎠𐎢𐎺𐎠* (Ball, PSBA XI, 143). Used by Gudea (ISA, 109, Cyl. B, V, 33) for building, from Amanus: half the height of cedars: (a box-tree on the Lebanon is quoted as being 20 feet high, FTP 38). It is mentioned by Sargon (VIIIth cent) as a product of Musasir (between L. Urumieh and L. Van, Thureau-Dangin, Une Relation, 53, 353). Tushratta of Mitanni (N.W. Assyria) sends an object made of the wood as a gift (Knudtzen, TA, 25, IV, 23, 25). The wood is diaphoretic, the leaves purgative, and a tincture from the bark febrifuge (IMP II, 1134). See also *šimeššalu*, § 21.

○

§ 33B. *TULUBU*(*g*), *Platanus*, *PLANE*.

Long identified with *𐎠𐎢𐎺𐎠* "plane" (see MA II 61). Used by Gudea (ISA 109, ident. by Jensen, quoted by Thureau-Dangin in letter), for building, from *!bla*. In AM, sap of *itulbi*, wash (52, 5, 8). Sargon (VIIIth cent.) mentions it (*idulbu*) as growing with *šurat hu* about *ulhu* (N.E. of L. Urumieh) (Thureau-Dangin, Une Relation, 35, L, 206).

○

§ 34A. *KAL*, *EŠŪ* (8), *UŠŪ* *OCPR. *MAPLE.

Use: (a) Simple (2): EXT., anoint (88, 2, 10).
 for *šiggati* (blains? 93, 2, 9). (*g*) SEED (3); EXT.,
 alone, anoint for *ašī* (pain, KAR 203, 63). INT., drink
 dyspnoea (59, 1, 39): put alone in rose-water and milk
 (similar texts "in middle of penis", 62, 1, ii 8).
 (c) gum, (1) (84, 4, 10). (d) *KU.KU*, apply head (5, 5, 7).

108.

§ 34A: § 34B: § 35.

It is spelt ... e-šu-u (73,1,29).

It grows by the sea (Maqlû iii, 179): comes from Cyprus (Sargon, Khors., 148), Mediterranean Coast (Ashurnasirpal, I, 8), and from it were made chariots (IVR 12, obv. 23-24) and doors (Neb. IX, 11). It also came from Karduniyash (Bezold-Budge, Tell el-Amarna, No 4, 28), and Muṣasir (between L. Van and L. Urumick (Thureau-Langin, Une Relation, 53, l. 353).

There is little doubt that this is the Maple. Several species are indigenous to Asia (Post, 204, gives three, the generic Ar. name being qaiqab). VK. 437 says that *A. pseudo-platanus* is well adapted for situations near the sea, and, since it is not apt to warp, is suitable for saddle-trees, wooden dishes, founders' patterns, etc. It has a sweet juice. *Acer creticum* is found in Crete, and doubtless might equally well have existed in Cyprus. In the same section in M. 13, 14 (ll. 2-6) are the trees samullu, haluppu (willow), šakullu and lanadu.

§ 34A HA.LU.ÚŠ, HULUPPU (5), WILLOW.

(a) Simply, (2); prob. EXT., feet (69, 27). (cf. 60, 2, 19).

(b) JUICE (3). (c) SEED (1) (Kü ii, IV, 30).

= ~~willow~~ "willow" (*Populus Euphratica*, Oliv., M. 13, 2, 31). HA.LU.ÚŠ MÁ.KAN.NA = tu-ti-tu Gudea obtained *haluppu* from Gubin "the Mountain of HA.LU.ÚŠ" (ISA. III, l. 45).

Salicine, from bark and leaves of *Salix* and *Populus*, for internal use in rheumatism (P. 1035)

§ 35 ŠEN.A, ŠUNŪ (55) ^① *Vitex agnus-castus*, L.,

"CHASTE TREE"

(a) Simply, (8) EXT., feet (69, 27). INT. (4, 4, 3 ?; 60, 1, 8).

^① Once "šu-nim for the more usual 'šu-nim (59, 1, 38). "Šu-un" occurs 60, 1, 18;

Enema (56, i, 8).

(b) "WATER" (19) usually for washing, i. e., 31, 5, 3 : 43, 5, 15 : 53, iii, 2 : 54, 1, 12 : 57, 1, 2 : 58, 2, 4 : 61, 1, 8 : 90, 1, 7 : 101, 8, 10, 16 : in "water of fresh šunû" (28, 4, 9 : 83, iv, 21) : rub patient in water of fresh šunû (79, 1, 15) : rub in water of šunû for a bruise (dikis 05T) from a chariot (96, 1, 17). For mouth (24, 5, 12) (c) SEED (10) EXT. anoint (29, 1, 2), bind (2, 7, 5 : 98, 3, 8), on libb. P^l (40, 5, 11), lungs (56, iv, 5) : apply to head (5, 5, 13). INT. for dyspnoea (u šunim, with about 40 other drugs, 59, 1, 38), with nuhurtu (asafoetida) and turpentine for some female ailment (KAR 194, iv, 4). (d) ROOT (2) : alone for kahi, drink (KAR 203 IV, 46) ; for cough, drink (ib. 31). (e) JUICE (12), EXT., bind (52, 5, 14 ; 60, 2, 1 : 70, 3, 8 : 83, iv, 25, 32). Alone with kimi hašli in rose-water as poultice (Kü ii, i, 18) : alone for ... šadani, anoint in oil (KAR 203, 40). Uncertain use, for ku. qig (58, 2, 7), constriction of lungs (53, 4, 19), breast (51, 12, 6) all prob. ext. (f) ŠE.RU (1), fumigate (91, 1, 6).

= ~~KU. QIG~~ Vitex agnus-castus, L. (Kü 93). Pliny's prescriptions (NH xviv 38) admirably coincide with AM. There are two trees of this kind : the seed is constantly used ext., acting as sudorific if the body be rubbed with it mixed with oil ; or as fomentation, it cures headaches ; with barley meal for tumours ; with honey for ulcers of the mouth : also diuretic, emmenagogue. "The produce of the tree" removes flatulence. As a liniment against spider bites. The blossoms and young shoots with oil of roses allay ^{drunken} headaches : the seed and leaves ext. for gout and diseases of sinews.

It grows near Jebel Hamrin (Mesop., Herzfeld, Beih. No. 176), called سوزبان : at Safa, called سوزبان

170.

§ 36: § 36 A.

(Von Opp. II. 383). See Forstkal. EF, 134. This word long recognized as the Assy. šisbanu, occurs as "šisbanam" (17) with *chamemile (48, 377). Cf. Küii, i, 3.

§ 36 A. LAM. MAR, 'ALLANU (1) Pistacia terebinthus, L., OAK (2) 'allanu (2)).

LAM. GAL (2), 'BUTUTTU, P. vera, L., PISTACHIO.

LAM. HAL, 'LUPANU *P. Lentiscus, L., *MASTIC.

LAM. TUR, MAR (ASIP), *P. Lentiscus, L., *MASTIC.

In this group, all beginning LAM, it is clear that we have the genus Pistacia.

'Allanu is 𐎠𐎢𐎽𐎢𐎠 "oak" (MA 48), the terebinth oak Pistacia terebinthus, L., whence came some of the turpentine in early times: "the true primitive turpentine, ῥοτινῆ, τερπινῆ, was celebrated as the finest of all analogous products" (FH 164). SFO ii 6 gives the habitat as Peloponnese, Macedonia, Crete, Cyprus, etc.: in Mediterranean district, extending as P. Palaestina to Syria and Palestine (EB xvii, 481; see Post 206).

šar al-la-an, applied to uterus (KAR 194, iv 18): 'al-lanu, drunk for bile with (or, as) gall-plant (Kü iii, i, 23): "allanna (1) anoint with others (94, 2 ii 12).

LAM. MAR KAK-uš | šamni dap-ra-ni (ta) tasallah | ana KU-šu tašakan... (KAR 203 VII, 10), a phrase occurring in 43, 1, 4 (cf. 10, and 53, 9, 7), al-la-na KAK-uš šamni šur-man tasallah ana KU-šu tašakan (an). Allana KAK-uš also occurs 57, 6: 43, 1, 11, 6; 47, 1, 2, 3: al-la-na KU.GIG (53, 9, 3, 8(1)).

That 'allanu = 𐎠𐎢𐎽𐎢𐎠 "oak" is reasonable: but allana KAK-uš would appear to refer (judging by the drugs mentioned in the prescription previously) to some kind of Cataplasm. Allanu in this sense occurs 43, 1, 18; 50, 6, 6: 53, 11, 7: 57, 5, 2, 9: 81, 9, 6: 96, 2, 2. (Are al-la-...

51, 12, 2, and "al-la-an" [to drink] for dyspnoea, to be included here?).

For convenience we can discuss "al-la-an-ka-niš" (3) here: it is described as "ditto" (i.e., hiniš + Br. 830 | RAT ina kurunni NAK) (KAR 203, 27), re-appearing in 67, 1, IV, 23, as allankaniš ina pi-ša umarrak (alone) for speedy birth in travail; and with NU.LUH.HA (asafoetida, 83, 1, 7) it occurs PL. 27, s. 1846, 6, and its dup. KA 180A (pl. 35), l. 28. Its reading is assured from allakani (Tiglath-Pileser, VII 18), the king having planted them in Assyrian gardens with cedar and box. The 12th century thus marks its introduction into Assyria. ii R 51, 1, 9 gives mātū Bibbu as the land whence it came.

— The next Pistacia is the 'Bututtu, not to be confused with ŠE bututtu of Hrozný (Getr. 68) D

Obviously, since 'LAM.MAR is *P. terebinthus*, L., Hrozný (Getr. 70) was correct in identifying 'bututtu (= 'LAM.gal, "the great LAM") with the Pistachio tree. 'Butnu has long been identified with 𐎠𐎢𐎺𐎠, the pistachio, the *P. vera*, L., (which rises to 30 feet) whence come the Pistachio-nuts (see MA 151). The fruit is bu-ut-na-nu (one shekel, ADD, 1074, 9); butnana ŠAR, MB 39, with rue, hyssop, and thyme: with a "stone" (i.e., the nut, PL 16, 93084, 3). Cf. bu-ut-nu sihrūti¹, PL 40, 82-5-22, 576, r. 14.² (95, 1, 11).

'LAM.GAL in AM, bend (.72, 2, 11). "Butnanu" (4) is a drug for the lungs (chew, KAR 203, IV, 24). drink (?) for dyspnoea (59, 1, 44).

— Lastly we have to identify *P. lentiscus*, L., from which the mastic comes. Mastic is the gum

① In AM (2) bututu 49, 4, 2 and ZI (D) bututti (6, 1, 8), = emmer. ② Or is this mastic? see further.

which exudes in small round, yellow tears, which the people chew constantly, but is not of much use in medicine (see VK. 562). It is a native of S. Europe and the Levant. This may either be 'LAM.TUR "the little LAM" ("the son of the physician(?)" in Assyrian), or it may be 'LAM.HAL = lupanu, the HAL, like the HAL of baluku, indicating its gum. If so, are we to see in lupanu the -anu product of the lupu, perhaps a shortened form of 'uluku, the tree cultivated so much round Harran with *styrax (§ 11). Mastic was known to Theophrastus (FH 142)

§ 36a. 'HUM.HA (8).

Use, simply. Drink for dyspnoea (59, 1, 34); use for mi-šitti with 'sihu and 'arganu (79, 1, 20), for lungs (35, 1, r. 8, with mustard and "AG.UT), both probably EXT. pitku is the "quantity" (41, 1, IV, 16). Especially with 'arkannu, for one rescued from drowning (87, 6, 6).

It must (from the last instance) be a plant with a pungent smell. 74 ii, 20, a dup. of KAR 192, has "bariratu as a variant for "HUM...

"Bariratu is a very usual compound with 'sihu and 'arganu, and obviously in some of the above instances (as well as the variant) 'HUM.HA can take its place. Probably, therefore, 'humha = "bariratu.

§ 37A. "GIŠIMMARU (26), Phoenix dactylifera, L, DATE - PALM.

(a) Simply (9) "of the left-hand" (north, prob. referring to some peculiarity of the rare palm in the north, the palm not growing satisfactorily above Tuz Khurmati), (63, 2, 9) Its "clean heart thou shalt chew (lehipi) in thy mouth"

(11, 1, 8). The inside of the very top of the palm-trunk is edible, having the colour and consistency of celery heart. I have eaten it in Basrah.

Xenophon (Anab. ii, iii) mentions it, saying that the soldiers ate the crown of the palm and were surprised at its appearance and peculiar flavour.

Gisimmaru is used for eyes (8, 5, 3) and to wash (52, 5, 8). The "dung of doves of a palm of the mountains" is to be bound on the head against samanu (1, 2, 11); it is a little difficult to decide what is meant by a "palm of the mountains" (or of the East?); the probability is it means the

wild palm. A "palm of the north" is mentioned in a recipe for a woman's hair (3, 2, 7).

(b) JUICE (5) of a palm ša ina(m)zuzu ("which is growing") (20, 1, 24, 26), ša ina NU.IM inamzuzu (for the head, ib. 9) ša IM.SI.ŠI ša ina NU.IM inamzuzu (103, 1, 25, 34). The sap of the palm is obtained by cutting off the head of the palm, and scooping out a hollow in the top of its stem, where the sap can gather. After six weeks the trunk becomes exhausted, and is then cut down (PC XVIII, 104). Herein, perhaps, lies the explanation of the "palm from the north". The Khurmati is the highest point at which the palm flourishes: above this the palm is practically worthless as a fruit-tree. Down in the south, where the palm is cultivated for its fruit, this wasteful method would hardly be employed.

(c) Daldallû (not a drug) (1) pollen (10, 1, iii, 11)

(d) Root of male palm (1) (13, 6, 18)

(e) Subuššu (8) "the little palm" EXT., bind (79, 1, 12), feet (ib. 28), rub feet (69, 2, 5).

174.

§ 37A: 375

Its JUICE, (1), for swelling: (75, 1, 12).

(g) Ukuru "the heart of the palm" (1) put on "front" (59, 3, 7, pudu). (= $\kappa\tau\alpha\alpha$, Jensen ZK II, 26).

(h) Ukuru of the "small palm", applied feet (75, 1, 19).

(i) "sisini (to be included here?) (1) (58, 8, 3).

(For a long list of date-palms and the different words pertaining thereto, see M. 13, 2, IV, 22 (f)).

§ 37B

SALUPPU (84), dactylus, DATE.

(a) Simpl., (KA LUM, 4), one sâmu?, 19, 1, 2: 10 bur

(15, 3, 9: KA LUM MA (25), $\frac{1}{2}$ ka (42, 2 r. 4: 57, 1 r. 4, 5).

EXT., bind (84, 4 IV, 3: 93, 3, 1: 96, 1, 9). INT. (? KU. 919,

57, 1 r. 4) eat, for deafness (35, 1, 9, cf. 10). Enema

(42, 2 r. 4: 56, 1, 6, r. 13: 94, 2, 8)

(b) Date-stone (7), bind (15, 3, 5), ointment on swelling in pig-fat (73, 1, ii 6), put on tubulle (of feet, 75, 1, 17) (probably = date-stones ground up).

"powder of date-stone" (1) alone for eyes (8, 1, 12):

"water of date-stone" (1) (27, 2, 16)

(c) "water of dates" (9) drink when stomach will not retain food (38, 1, 9). Use for dyspnoea (59, 1, 21): for head (1, 3, 12). Quantity, $\frac{1}{3}$ ka (38, 1, 9: 50, 6, 9).

(d) Dates of Dilmun (6): EXT. (32, 5, 1, 6, 9)

(e) KI KAL KA LUM MA (16): EXT., bind (49, 6, 7, 1, for constriction of lungs) (55, 1, 9: 72, 2, 5, 8: prob. 51, 8, 9). INT., eat(?) with pig-fat (80, 7, 4). Uncertain for breast (27, 7, 4): allana, for KU. 919 (47, 1, 4). Quantities, 2 mana (64, 3, 7): 1 mana (50, 3, r. 5: 72, 2, 5): $\frac{1}{2}$ ka (49, 6, 1): $\frac{1}{3}$ ka (17, 8, 4).

In 98, 2, 7 a variant for KI KAL KA LUM MA is GAB dispi, the latter drug occurring more than 30 times as against about two and a half times as many, of various forms of honey

without GAB. Figures are made of GAB dišpi (81, 5, r. 5 : 86, 1, i, 4, 8 ; Maqlâ ii, 47), which would appear to indicate "wax". A GAB šamaššammi occurs (4), obviously from the sesame. Is KI.KAL the equivalent of 𐎠𐎢𐎣𐎠, cake, or lump, used of figs as application to a boil (2 Ki. xx, 7), one value for KI.KAL being dibiru (?) (SAI, 9382). KI.KAL occurs 53, 1, IV, 6, NA. B1 KI.KAL KU.GI9 ... , which rather indicates a plaster. A plaster of dates is recommended in SA ii, 372.

In India dates are considered expectorant and laxative, and are used for cough, gonorrhoea, etc. A paste of the seeds for eyes (IMP ii, 1314).

§ 38 ŠALLURU (7), *Mespilus germanica*, L., MEDLAR.

Use: (a) JUICE (5) : (b) hasballatu (1) (72, 2 r. 4).

𐎠𐎢𐎣 = salluru, 𐎠𐎢𐎣.𐎠𐎢𐎣 = kameššaru (Holmâ KB, 73, 𐎠𐎢𐎣𐎠 "pear"), 𐎠𐎢𐎣.𐎠𐎢𐎣 = marmahu (M. 13, 2, 18, ll. 48, 49, 53) : 𐎠𐎢𐎣.𐎠𐎢𐎣 = kameššaru (Rm. 367, Meissner, suppl. 23) : marmahu = šalluru (Rm. 356, CT. xviii, 16, obv. 17 ; M. 13, 2, 18, l. 62). Cf. Peiser, KB IV, 243, No. 39. "3 gur of grapes, 30 (ka) 𐎠𐎢𐎣 on the tree, of the limitum in front of the Lion-gate" (10th year, Nabonidus).

We have thus a fruit-tree, bearing a fruit similar to a pear. The similarity of the Ar. 𐎠𐎢𐎣 is obvious. This may be either the Medlar (*Mespilus*) or the *Crataegus azarolus*, L. (see § 10 N 2 : Low 288). Šalluru must be 𐎠𐎢𐎣 "medlar".

Marmahu, its equivalent, has no little similarity to 𐎠𐎢𐎣, Portuguese marmelo "quince", and so our "marmalade". "Honey-apple" is a poor explanation for 𐎠𐎢𐎣, savouring too much of a "popular" etymology.

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§ 39.

§ 39ⁱ NU.UR.MA, nurmû (49) POMEGRANATE.

GIŠ MA + GUNU (14): APPLE

i. TITTU, (9) FIG.

ARMĀNU, (1) APRICOT.

Hitherto it has been customary to see in armānu the Heb. רִמּוֹן "pomegranate" (Meissner, MVAG XVIII, 2, 33). I cannot agree with this.

Nurmû is used in AM: (a) Simply, infrequent: bray, and blow into eyes by a reed (Kü iii, iv, 5).

(b) "WATER" (8), EXT, eyes (17, 4A): ears (33, 1, 20: 34, 1, 8(?): 35, 2, 2: 36, 1, 12: 37, 10, 5). Enema (Kü ii, ii, 81). Quantity 1 shekel (35, 2, 2).

(c) JUICE (5), EXT, reduce and bray alone, anoint with fish oil (swelling) (73, 1 ii 9).

Bray and bind on one shekel in four days (75, 1, 26).

(d) 1 A (6) EXT, burn and apply swelling (74, 1, 16): apply, eyes (12, 6, 8): kappalta alone (74, 1, 21): anoint feet (74, 1 iii 16).

(e) SKIN (1) - bind on swelling with others (73, 1, 20). cf. Kü ii, iv, 30.

(f) FRUIT, Kü ii, iv, 30.

(g) HISHALLATU (2), 32, 6, 8, 72, 2 + 4.

(h) BAB (1) (12, 6, 7).

(i) stone mentioned, CT. XII, 48, 10-d.

Uncertain parts used: applying eyes (12, 2, 7): bind (74, 13: 96, 1, 19): used for beard (appar. LA, 26, 8, 18): blow in ears (36, 1, 16).

Various species are given (VR 26, 21, 9: M 13, ii, 20, l. 10ff.).

GIŠ. NU.UR.MA

nu-ur-mu-u

GIŠ. LAL. DAR

ditto

GIŠ. NU.UR.MA.KŪ.KŪ

a-la(?)-pa-an-ni

GIŠ. NU.UR.MA.KUR.RA

ditto

GIŠ. NU.UR.MA.KŪ.KŪ

ma-al-ku

GIŠ. NU.UR.MA.ZAG.GA

da-es-pu

GIŠ. NU.UR.MA.ZAG.GAR.RA

sa(?)-mi-is-tu

GIŠ. NU.UR.MA.BIL.LAL

en-su

GIŠ. NU.UR.MA.DUG.GA

ba-a-tu

The "sweet (matku) nurmû" occurs in AM twice,

the skin ([S]U) being eaten with 'urzinnu,' and his libbi^{pl} will be bound" (95,3,12): and is described (105,1,8) *ša ina eli GIŠ.GAR zakpat mē tašēša*, i.e. planted against the "šikiltu of the house" (GIŠ.GAR). It occurs CT. XIV, 41, Rm. 362, 8.

'nurmû is therefore a tree forming a group with tittu "fig" (ii R 23,3,4: CT. XVIII, 2, 3-5): but its "stone" excludes a meaning "fig (??)", suggested, Del. HWB 482. The frequent use of "water," juice, and skin indicate a fruit-tree, and one for which there are two possibilities, Lemon or Pomegranate. But 'nurmû-skin is used in AM to "bind the stomach": this is exactly the use of pomegranate-rind in India (with pomegranate flowers, both of *P. granatum*, L., IMP I, 569). The pomegranate-rind is constantly seen in Mesopotamian bazars. ^①

Most indicative is Knudtzon, TA No 25, ii 4: "five nur[m]û of tak s[AG. KAL]", i.e., a decorative nurmû in an inventory of goods, which from the custom of imitating the pomegranate in decoration (rather than the lemon; cf. I Ki. VII, 42: Hdt. VII, 41). Cf. also ib., No 16 ii 47 "one nurimdu of silver!"

If SM be compared to AM, it will be seen that the pomegranate is similarly used in both. SM gives the use ext. for eyes (ii 658, juice: 93, rind: etc), ears (115, rind: 116, extract: 665, juice): abscesses (175, juice: 359, rind): INT. (231, 677). Moreover, in SM both a bitter and a sweet pomegranate are mentioned, which coincides with the Assyrian list. There are actually three kinds in Syria, the sour, the sweet, and the very sweet (VK 355). In the Assyrian list mattû is obviously the medium-sweet, and dašpu the "honey-sweet" kind, and there is also an engu. Now in SAI 3156 BIL.LAL

^① I was told in Basrah that it was ground up, mixed with water, and used for dyeing yellow.

= ensu, and in 3157 lâbātu. In my forthcoming translations of AM in PRSM I have tried to shew that lâbātu = "vinegar," which is borne out by SAI 3156 ensu, which must be ~~𐎠𐎢𐎽𐎢~~ be sour, ~~𐎠𐎢𐎽𐎢~~. We have thus all three kinds of pomegranates, the honey-sweet, the sweet, and the sour. Nurmû will then be ~~𐎠𐎢𐎽𐎢~~ ①.

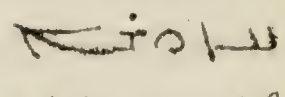
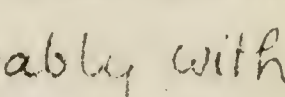
With nurmû settled as pomegranate, we must find a meaning for armānu, and to do this we must consider all the groups containing ~~𐎠𐎢𐎽𐎢~~ MA + GUNU.

~~𐎠𐎢𐎽𐎢~~ (SAI 2766) = ha^hhurū; (= 2767) tittu; i.e. apple, and fig respectively: ~~𐎠𐎢𐎽𐎢~~ = ~~𐎠𐎢𐎽𐎢~~ ~~𐎠𐎢𐎽𐎢~~
 = hašhuraku (tannin?) (LOCK: ~~𐎠𐎢𐎽𐎢~~ ~~𐎠𐎢𐎽𐎢~~ ~~𐎠𐎢𐎽𐎢~~, MA + GUNU, KUR.RA = armannu), and armannu = armānu (see SAI 2765-2772), exactly

Now MA + GUNU can hardly mean both "fig" and "apple", in spite of SAI, for ~~𐎠𐎢𐎽𐎢~~ appears in the same prescription as ~~𐎠𐎢𐎽𐎢~~ MA, which has the value tittu "fig" only, so that MA + GUNU is properly "apple". Moreover, in the legend of the Worm (CT VIII, 50, 11-12) the god says to the worm "I will give thee MA bašilta, ar-ma-na-a MA + GUNU", the first being obviously dried figs (in which small white worms are found). In the second group, armanâ belongs to MA + GUNU, for the answer of the worm is "what are these dried figs to me, or (𐎠𐎢𐎽𐎢) armanâ MA + GUNU?" The u makes this certain and we must keep the two distinct. It is clear to this extent that MA + GUNU besides its proper meaning "apple", can be used, in some sense or way, as

① In place of armānu. ② Luckenbill, AJSL, 177, 116.

"fig" and even as the tree of the armānu-fruit. It would appear therefore, while meaning "apple" properly, to be used of similar round fruit (as also in hašhur-abi "gall-apple").

Since "pomegranate" no longer serves for armānu (indeed, it would be difficult to see food for worms in pomegranates) we must find another fruit. The Syriac   "apricot" agrees admirably with our armanā hašhuri (iMA + GUNU). The Romans called the fruit Armeniaca, which led to the belief that the fruit originally came from Armeria. This view was combated by M. Regnier, on the grounds that snow is fatal to this early-flowering plant (VK. 333). I know of no satisfactory evidence which would make our word armānu into "the (fruit) from Armeria", and it seems probable that this, the earliest form of the word Armeniaca "apricot" yet known, bears out M. Regnier's contention.

Whatever its origin armānu is certainly the original of Armeniaca in Prunus Armeniaca, L., the Apricot. The Sum. for "apricot" is, as we have seen, iMA + GUNU. KUR. RA "apple of the mountains".

iMA + GUNU, the Apple proper, is found in AM (a) Simply (4), for mišitti (76, 2, 13): (b) JUICE (7), (+ juice of apricot (iMA + GUNU. KUR. RA (1) (68, 1, 16); mouth (24, 5, 9); venercal (58, 6, 7). (c) Hašhallatu, (1) (55, 4, 10). On the other hand ar-ma-nim "apricots" occurs (85, 3, 7). It should be added that the apple of Mesop. is a poor fruit compared with the apricot, which latter I have eaten in plenty in June in the rich orchards round Kerkuk. In the Legend of the Worm dried figs and

of m, the equivalent of 𐎎𐎗𐎗𐎗 Ficus Sycomorus, L.
 "Musukanu, the well-known 'musukkannu
 or 'miskannu, 'MIŠ. MA. KAN. NA of the historical
 texts, properly the "MIŠ. tree of Arabia".
 Tiglath-Pileser (Th. 24) cut down the plantations
 round Sapiya in Babylonia: the tree was
 frequently used for making palace-doors in
 Assyria, and was sent as tribute. This large
 tree which grows in Babylonia, is also a tree
 with a PA "juice" (in Johns' ADD 1042, 3 where
 PA *MIŠ. MA. KAN. NA is mentioned with PA of
 pomegranate, of grapes(?), of *lemon, etc.). As
 Meissner (213, 2, 38) says, it cannot be the palm.

It is obviously the mulberry, for which
 important tree no satisfactory equivalent
 has yet been suggested: an object of cul-
 tivation at a very early period in the
 Western parts of Asia, and believed to be
 native to Persia, Armenia, and the Caucasus
 (BMP No. 229: VK 343). It must be *Morus*
alba, L., rather than *M. nigra*, L.: I have
 seen the white mulberry growing some dis-
 tance S.E. of Mosul. It must be remembered
 that this fruit, as it grows N. of Baghdad, is not
 the luscious mulberry which we know: it is
 rather a poor, dry fruit, and I do not re-
 member it as ranking high in Arab
 estimation. The wood of the trees is ad-
 mirable for carpentry; Tiglath-Pileser cut
 them down with the double purpose of destroy-
 ing fruit trees, and supplying himself with
 wood.

Most interesting is its similarity to the
 Greek $\sigma\upsilon\kappa\acute{\alpha}\mu\iota\nu\omicron\varsigma$ "mulberry" for which
 no satisfactory Greek derivation has been

suggested ^①. The Greek word σικαμίνος must have been brought with the tree from the East, and taken over by a metathesis of consonants (in musukanu) like "NAM.TAR.IRA = μανδραγόρα.

[u]šukdu = 𐎶𐎢𐎺 "almond" (M. '04, 4, 31). It occurs as PA. šikd: (68, 1, 18, "juice of almond" or sap).

[u]Nu-uš-hu, following it, must be 𐎶𐎢𐎺 "almond". The n varies easily with 𐎶, and, more interesting is 𐎶𐎢 = 𐎶𐎢 as in hašfuru = 𐎶𐎢𐎺.

"Hudhumu, conceivably to be compared with 𐎶𐎢𐎺 zizyphus(?), in this connection, the fruit being eatable, but improbable. We should have expected walnut, the 𐎶𐎢, the other common nut of Kurdistan.



§ 41. ĪA.AM, ADARU, ILTAKKU, *LEMON.

(a) Simply (2), prob. EXT., for feet (69, 2, 7): with pomegranate and fruit of ĪŠAR (77, 5, 11).

(b) JUICE (6), put on tongue (23, 10, 4): boil in water (6, 1, 74).

(c) Hashallatu (1) (72, 2, 1, 3).

Its Sumerian name might be translated "JUICE OF MIGHT". Adaru is reminiscent of Lev. xxiii, 40, 𐎶𐎢𐎺 𐎶𐎢 "75", traditionally Citrus medica (L'ow, 46). C. medica is properly 𐎶𐎢𐎺 𐎶𐎢𐎺, 𐎶𐎢𐎺 𐎶𐎢𐎺, a foreign word which a due metathesis will make into iltakku.

A lemon-pip was found at Nippur (Meissner, Bab. Ass. 209). Pliny (NH xii, 7) says

① This seems to dispose of Lewy's theory (Semitische Fremdwörter im Griechischen, 23), which makes it 𐎶𐎢𐎺.

the citron grows nowhere but Media or ^{Persia}: *C. medica* abounded in Media (Theophrastus, EP, IV, 4).^① Trees of lemon (or lime) varieties are to be seen today in Mosul, the Baghdad district abounds in oranges, and excellent limes come from the Persian Gulf. But the lemon is said to have been unknown to the Greeks (FH 103).

The various species of A.AM are given by M. 13, ii, 19; Meek, RA 1920, 166:—

| | |
|---------------------|--------------------|
| GIŠ. A.AM | šū (i.e. iltak)-ku |
| GIŠ. A.AM | a- da- ru |
| GIŠ. A.AM. KUR. RA | » šadî(i) |
| GIŠ. A.AM. BÚR. RA | ni - i [p- lu] |
| GIŠ. A.AM. BÚR. RA | zik - [pu] |
| GIŠ. A.AM. BÚR. RA | šit - [lu] |
| GIŠ. A.AM. AZAG. GA | » (?) |
| GIŠ. A.AM. ŠITA | » ka- [a- ti] |

Niplu (= ŠE.RÙ, MA 707), zikpu, and šitlu (𐎠𐎢𐎡𐎢) all appear to be words for shoots (M. ib. 36). The last line should be compared with the description of the iltakku:—

iltakku ša ina rāti-šu la irišu
 iltakku ša išdanuš innašhu
 (IVR 27, a 9, 11) "A *lemon (-lime) which by its water-channel hath not been planted, a *lemon torn up by its roots"

Note A.AM.TUR = lam-... (M. 13, 2, 19, l. 69). Are we to see in this "little lemon" the lime, with lam-... as part of the Arabic laimun?

① For the full history of this fruit see Gallesio, *Traité du Citrus*, 1811, epitomized by De Candolle, *Geogr. botanique*, ii, 663.

184.

§ 42 : § 43.

§ 42. (u) GIS.ŠAR (9).

(a) Simply, "GIS.ŠAR (2), tatabbak (15, 3, 7); tašakan

(an) (15, 3, 8): GIS.ŠAR (1), šimdi kiung[i]..

HA "GUG GIS.ŠAR, apply to feet (79, 1, 25).

(b) JUICE (3) PAMES GIS.ŠAR KAL.A.131
lelikki (ki) (68, 1, 20). Here probably "all
juices of the orchard!"

(c) FRUIT (3) i'binu "GAB.LAM "TIR(?) 'nur-
mû i'itakku inib GIS.ŠAR u... inib GIS.
ŠAR an-na-a ana libbitanadi(di) (77, 5, 11, 12);
with many others wash (52, 5, 10). Here
probably - fruit of the orchard. It occurs
as "GIS.ŠAR, PL. 4, 26.

§ 43. 'MI.TAK (15), Nerium oleander, L. (?) OLEANDER(?)

Use apparently always ext. (a) Simply (1), EXT., for
feet (69, 2, 7). KAR 203, 53 prescribes it as šammu
TAB. UD.DA, like šasumtu § 10 AW, and ["da]-da-nu
(PL. 36, 79-7-8, 22), "for taking away a burn (blister)"
(TAB = hamaku = ~~𐎠𐎢𐎽𐎢~~ "blister".

(b) JUICE (10), EXT., with juice of licorice, juice of
'etu, pine-turpentine, fir-turpentine, for feet (74, 1,
iii, 5): with chamomile and fennel-juice, for feet (ib. 12)
with others, for feet (15, 3, 2): eyes (?) (28, 10 ii, 4 : 75, 1, iv, 10).
for mouth (24, 5, 9): for KU.GIG (58, 2, 7).

(c) Doubtful parts (4): for ears (36, 1, 8): bind on (?)
(57, 6, 10).

The Semitic equivalent may be giparu (Kü 79)
possibly 𐎠𐎢𐎽𐎢.

From AM above it must be a tree, used chiefly
(and probably always) ext., and hence poisonous:
usually for skin-trouble. The oleander certainly
complies with these demands, but there are difficul-
ties in the way of identifying it thus (see šsumlatu,
§ 20.). Cf the details given for N. odorum, § 20.

§ 44. ⁱBAR.MUS (13).

(a) Simply (3): apply head (3, 9, 6), for eyes (16, 1, 5, where a variant gloss is given as ⁱbinu "tamarisk"). (ⁱ Fruit (6): drink and anoint (88, 2, 7, 8): anoint (95, 2, ii 9): Fumigate (99, 3, 7, 10): with hemp, mint, saffron, [etc.], 99, 3, 4). Quantity, 10 shekels (CT XXIII, 24, 14).

(c) ROOT (1) with root of tamarisk, etc., for guraštu (17, 1 ii 6). (d) JUICE (1) (37, 4, 6).

M. 13, VI, 40-44 gives ⁱMUS = kal-..., ⁱBAR.MUS = ditto, ⁱBAR.MUS = gi-..., ⁱBAR = ditto, ⁱBAR.BAR = ditto. IL R 46, 68, 2, ⁱBAR.MUS = gi-i[?]-..., or with Zimmetu, gi-i[r-ru].

Uncertain: is it a narcotic, from (ⁱ), the berries being used, like Withania somnifera, L., or henbane in modern folk-medicine, for fumigating? (See §§ 10 Q, 10 Q 2.

Are we to compare ⁱBAR-at-sa-na (1) (10, 2, 6)?

§ 45. ⁱELAMMAKU (3)

KU.KU (5, 2, 7: 5, 5, 9: 40, 5, 6). Tushratta of Mitanni (N.W. Assyria) sends a gift made of it (Knudtzon, TA 25, IV, 64). Used by Sennacherib (Del. HWB, 74). The Gilgamesh Epic (Jensen, 75, 46) speaks of a dish of ⁱelamma[ku]-wood, which would suggest some species of beech.

§ 46. ⁱHUPÊ (SARBATE) (844, iii, 11).

§ 47. ⁱLAMMU (1); ⁱMESU, Celtis australis, L.

ⁱLammu, for limbs, in wine (69, 1, 18). ⁱLammu = ⁱU.KU = ašuku (ii R, 23, e-f, 20), i.e. "fir" cf. M. 13, 2, 28, u. 26-27, ⁱGI.ZU.ŠUM.MA = ⁱLammu and

businnu (= ~~PL 300~~ verbascum, Meissner, ib., 42).

In M. 13, 2, 20, ll. 24, ff. 'MEŠ = mēsu, lammu, sulmu, sulum mēsi; and l. 28, 'MEŠ.MA.KAN. HA = musukanu, which I have identified with *SUKÁMIVOS*, mulberry, § 41. Mesu Meissner rightly identified with the Ar. *Mais*, the *Celtis australis*, L. (Post, 729). It occurs in Gudea (ISA VI, 17).

Then follows another section, (29) 'MEŠ.ME.LUH. HA = sulum meluhhi, (30) 'MEŠ.KIM.DIR(?) = mēsu (and l. 31. = fulamesu) (32, 33), 'MEŠ.HA.LU.ÚB. HAR.RA.NA, and 'MEŠ.DUP.RA.AN = dupranu (juniper), (34) 'MEŠ.GAM = šaššugu, (35, 36) 'MEŠ.TU = kul-latu, kaptanu, (37) 'MEŠ.BABBAR = tiyâlu (38, 39) 'MEŠ.GIG = sulamu, sulum mēsi. P. 27, l. 74, 'MEŠ.BU = sulum ki-min (= kilibu).

O

§ 48 'ŠEMUŠ (SE.ŠIŠ), ŠIGUŠU, ŠAŠŠUGU (6).

(a) Simply (1) (34, 1, 23). (b) KU (2), for temples, (20, 1, 37). Cf. Harper, Letters, No. 566, 16.

M. 13, 2, 18, ll. 57-59, gives a section 'ŠE.ŠIŠ = šaššugu, 'BIL(?) DU.KU = šar-ša-bit-tu, 'MEŠ. BIL(?) DU.KU = sulum " (= šaršabitti), 'MA + GUNU. ŠIŠ = šigušu. (ib., p. 15, l. 48).

O

§ 49. 'ŠE.HAR (MUR) (2)

(a) JUICE, stomachic, with licorice juice and salt, (38, 1, 6): bind on for stomach one mana (Kü, II, i, 9). (b) Hasballatu, 72, 2, 72.

Include here (?) 'ŠI.HAR (MUR), bind on juice for ku libbi (stomachic) (Kü I, i, 24); and 'ŠI.HAR (MUR).TU (61, 4, 6). Perhaps read šemur(tu) (?). It is clearly a fruit-tree.

O

§ 50 HAR, kiškanû

M. 13, 2, 14, ll. 7-13 is a section containing kiškanû, k. pišû, k. šalmu, k. šâmu, k. urku, siḫpu, iṣu šalmu. It is therefore a tree, white, black (blue), red, green (yellow), and perhaps connected with siḫpu and "black wood". It is the subject of the well-known incantation in CT. XVI, 46, 183, ff. (translated in my Devils, I 201) where the kiškanû šalmu is said to grow in Eridu, its home is the couch of the River, and its shade spreads like a grove, and none enters in. It is then used in the incantation.

I wrongly identified it (loc. cit.) with the as-tragalus. Albright (ASS: xxxv, 1919, 194) challenged this rightly, but the difficulty is to find any tree at all at Eridu nowadays with which to identify it (see my article, Archaeologia, LXX, 106). Not a tree grows there now, and there is nothing larger than scrub for fuel.

iṣu šalmu may, however, be distinct, and if so, is probably "ebony".

o

§ 51. ĪNAMTAR. (IRA) ① (32), Mandragora officinarum, L., MANDRAKE.

(a) Simply, ĪNAMTAR. IRA (3): EXT., for tooth-ache, apply to tooth (PL 23, K. 259, 1); INT., drink in beer and purging follows (ku ii, i, 45); for jaundice (ib. iii, iv, 24).

(b) ROOT, (ĪNAMTAR. IRA (20), ĪNAM. RI. UŠ (42, 5, 57), ĪNAM. RI. ... (34, 1, 32), ĪNAM. TAR. RI. IRA (4, 6, 11); esp. of "male Namtar-plant of the North"

① M. Thureau-Dangin kindly pointed out this value for ~~IR~~ to me.

(67, i, iv, 12) expanded to "which does not bear fruit" (Kü. iii, iii, 9): EXT., alone on tooth (Pl. 23, K 350 2), and with mint-root, *styrax, etc., with thistle(-down) for tooth (28, i, 3): bind temples (103, i, 15), alone in beef-lard on feet (74, i, 24): anoint (96, 4, 5), anoint seven times the stomach of a woman in difficult labour with "root of Namtar-ira of the north" (67, i, iv, 12): wash (98, 3, 2): apply anus (57, 5, 14): use for KU.GIG (58, i, 9: KAR 203, VII, 5). Fumigate (91, i, 11). INT., drink as stomachic (42, 5, 5, 7: hü i, i, 17): for jaundice (alone, "N. of the north which does not bear fruit", Kü iii, iii, 9): with a "drug for bile" when suffering from bile (Kü iii, i, 25).

Esp. notice "When a man sleeps, and his sleep eli-šu DUG.GA zi-ma i-ka-šu-ušGU ... ana balati-šu išid 'NAM.TAR.IRA' kurran ekli RAT ina ZAL.LU HI, HI al-la-na teppus] ... i.e., cometh well upon him and ikašus ..." then apply ext., bruised namtar-ira root and chamomile in lard (2-1, 1).

(c) KU (powder) of 'NAM.TAR.IRA' (1), drink in beer with KU 'U.GIR.GIL for dyspnoea (59, 1, 30).

(d) JUICE of 'Namtar-ira' (1) for eyes (16, 3, 5): drink (ib. 7): of 'Namtar' (31, 7 ii, 12)

(e) GISED of 'Namtar' (1), apply to kurara (5, 5, 13). (f) LEAF of 'Namtar-ira' (1) (69, 5, 2).

'NAM.TAR, 'NAM.TAR.RA, 'NAM.ER.ZA = pi-lu-u^① (M. 13, 2, 27, v. 74-76), doubtless a form of pi-lu-u (Pl. 35, K 14030, written thus in the line preceding [zi]r 'NAM.TAR.

IDENTIFICATION: The drug Namtar, Assyri. pi(l)lū, picturesquely meaning "the Plague-

^① Pi-lu-u also = 'GEŠTIN.KA (16, 14, 7, 16)

"god Plant", or we might say, "Devil-plant," frequently defined as male, used in some sickness where sleep is concerned, and esp. as an anodyne for toothache. Root, powder, juice, seed, and leaf are all used.

The obvious solution is the mandrake, *Mandragora officinarum*, L. Gerarde (280) describes it as male or female, the former having fruit like an apple, the latter like a pear. Diosc. (IV, 76) also says there is a male and female; it is used for eyes, menses and as soporific; the leaves for eyes and ulcers; the root for erysipelas and serpents' bites. Theophrastus says (EP IX, 11) the leaf is useful for wounds with meal, the root for erysipelas, gout and sleeplessness. The description "male" perhaps finds an explanation in SM II, 708, where the Mandrake is called the *ka hî nâ* root: it was the firstborn of all the roots, used by King Solomon, a cubit high, with red blossoms, and, after the flower is dead, "there remain on the top thereof two little balls which are like the testicles of a man". One of the Arabic names for it is "devil's testicles" (Post, s.v.), a very close parallel to the Assyrian "male Namtar-plant".

According to Sprengel (Diosc. II, 604), the male is *M. vernalis*, Bertolon, and the female *M. autumnalis*. The drug is purgative, emetic, and narcotic (EB, XVII, 566). *M. officinarum*, L., grows in Cyprus, Syria, and Palestine, *M. autumnalis*, Spreng., in N. Africa (BFO, IV, 291)

Obviously, then, *pi(l)lû* is the Arab. *luffat* "mandrake", by an ordinary metathesis.

Out of this arises an interesting philological pedigree. Our word "mandrake" is

thus merely the Assyrian word "Plague-god Plant", slightly changed by the merchants who introduced the word into Europe as *Μαυδράγωνα*; truly a very little way from *NAM.TAR.IRA* by a simple inversion of *n* and *m*.^① The change from *musukanu* to *συκάμινος*, the mulberry, is similar.

○

VARIOUS PLANTS.

§ 52. "AG. UD (48), *Ricinus communis*, L.,
 * * CASTOR OIL. (See p. 98).


Simply, only. EXT. for *šiggat*: (Blains(?) 32, 5, 10): ~~oint~~ (3, 5, 5: 52, 4, 5: 92, 4, 10: 94, 2, 12: 96, 1, 3: 97, 4, 3: with *nikibtu* (*liquidambar) in cedar-oil (92, 4, 4): for feet (74, 1, iii 4): for swelling (100, 2, 20): one of 8 on wool in cedar-oil for ears (38, 1, 24), Wash (94, 2, ii, 9): wash head with alkali in fresh water (3, 5, 9). INT., (48, 1, 5: 83, 4, 10: *kū* iii, iv, 3): alone, after a poultice drink in beer (18, 2, 7): stomachic (39, 1, 43): alone in beer (and purging follows) (36, 2, 10: cf. *styrax alone in beer, same result, ib. 8). Use uncertain, stomach (39, 1, 31, 36: 40, 1, 47: 45, 6, 13): *kurari* (5, 8, 4): constriction of lungs (53, 4, 17): when

① I spoke of this in a paper to the Historical Section of the Royal Society of Medicine, April 18, 1923, and the details were given in the Times next day.

asida-šu luttá (75, I, IV, 21). Quantity, 1 šu (41, I, IV, 26).

Semitic equivalent unknown. The UD may indicate some white quality.

Now, since it helps alkali to make a compound which in water will wash the head (i.e., a soap) we must see in it some oil. Pliny (NH XXVIII, 51) speaks of soap made of tallow and ashes. In Palestine olive-oil is used with alkali for this purpose (Patrick, HDB IV, 558). As the olive is not ^{properly a Babylonian} ~~an Assyrian~~ plant we ^{should} ~~must~~ seek some other oil-bearing vegetable, especially one with a common medicinal value.

The inferior qualities of Castor Oil (*Ricinus communis*, L.) are thus used (BMP No. 237: FH 571). This plant is supposed to be a native of India, but it has the look of a native plant in the Mediterranean region (BMP, ib.). I have seen it growing near Mosul and Basrah, called . It is obtainable in Baghdad (J. F. Jones, Memoir, 396).

For EXT. use in medicine, cf. Pliny (NH XXIII, 41), diseases of the joints, indurations, affections of uterus and ears, and burns. IB (771) prescribes it for indurations, the leaf raw or boiled for gout, and the seed pounded on a hot stone for cataplasms. On its presence in ancient Egyptian graves, see Löw, 353.

It will be observed that in AM it is prescribed

with some pleasant scent for ext. use frequently; and in internal use with beer, thus rather implying an offensive drug.

§ 53. "ANNUHARA (9) (a stone fruit?)

EXT., (89, 1, 13), lungs (85, 1, 7). INT., eat green with green māstakal, thyme, etc. (85, 1, 15). Used for KI mišitti (76, 2, 11). Quantity, one shekel (49, 4, 18). The stone used for illatu (31, 4, 12). Ebeling (Arch. XIII, 7, n. 10) quotes a-nu-ha-tu (KAR 202, 7, 1) and even "nu-ha-rum.

§ 54. "URTŪ (1), "URTU (3?)

Anoint for lice in head (1, 2, 7): "urtū "a drug that lice be not on a man's body" (CT. XIII, 43, S. 60, 12, KAR 203, VII, 33). [CF. "urtu "when a man approaches his wife" (65, 7, 4), and urtim anoint (94, 2 ii 16, 20) perhaps not the same plant]. "URI = urtū (M. 13, 2, 17, L. 46) i.e., one of the aromatic shrubs. Meissner (ib. 36) thinks it comes from Urtaria on account of its ideogram.

§ 55. "AŠĪ

In addition to the use of the phrase šam ašī "a drug against pain" (? ^šawl "be afflicted") there appears to be a special "plant called "ašī; but, mi-su "a-šī-i "some drug against pain" (16, 3, 3) leaves it open to doubt. However, compare "a-šī-i as a gloss to 7 KU "HAR. HAR (49, 6+2): applied to eyes (8, 1, 3; 18, 10, 5); and used for

relief from witchcraft (87, str. 8, with 50 others). 64, 1, 28 gives ...kasī, kukru, "ašī as a fumigation against seizure? by a-šū-u (pain?).

But that it has the meaning of "a drug against pain(? ašī)" and not necessarily a special plant, is clear from K. 4566 + 8651 + 14047 (new join) + 14136, PL. 29, where 27 lines are devoted to plants defined as "a-šī-i".

§ 56. "AT. KAN (10) [○] Ricinus, p. 98.

(a) Simply (5); eyes (14, 1 ii 6): mixed with parched corn (61, 2, 11). (b) SEED (2) "a drug for having seed", applied to uterus with beer (KAR 203, 19): "a drug for sick lungs", drink (ib. iv, 25): drink (51, 7, 5). (c) ŠE. RÙ (2), bind on for cough (50, 3, 3).

§ 57 "BAT. TAR [○] (7).

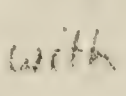

(a) Simply, perhaps always (but... KU "BAT. TAR. ŠAR occurs 75, 1 iv 22, bind on): for misitti (76, 2, 12): fumigate (78, 10, 3); drink (for dyspnoea 59, 1, 36): probably "when a man goes to his wife and ... to another woman goes" (66, 1, 11): use in enemas (Kii ii, iii, 7). K. 101261 (PL. 39), and its dup. S. 1328 (ib. 32) show that this plant precedes hašhuraku in order.

① Not as Meissner (SAI 888). My copy gives (CT XIV, PL 16: 93084, 6) which should be i.e. BAT. TAR. is the Babylonian for : cf. PL 12, 93074, r. 7 i.e. TAR. LU GAL. HU.

§ 58 (w) GĀNU (1)

Bind (7.4, 16). Drink, for haki (KAR 203, IV, 44); probably for cough (ib. 34). A drug for BIL lib-ti (v. ŠĀ, ŠA) ZI, to anoini (KAR 203, VII, 28: CT. XIV, PL 36, K. 4187 added to Rm II, 412, is used like "fox-grape", solanum, § 100, 2: CT. XIV, 43, s. 60, 6). It can hardly be the Kurdish word quini for an astragalus (BMP No. 73).

§ 59. "HASŪ (HASĒ) (10) ; HASĀNU (6) ; ZAMBURU ŠAR.
Thymus, THYME.

"Hasū (once "hasē UŠ, 75, I, IV, 11, when the next receipt has "hasē simply (l. 12), in AM simply only: eaten (85, I, 15): drunk (15, 44 : 75, IV, 13, 15). Hasē ŠAR. (MB 38) was properly identified with  "Thyme" by Meissner (ZA VI, 294) who also identified zamburu šar in the preceding line with  "Thyme". Conceivably we might see in this zamburu the word thymbracum (Pliny, NH, xx 91) by which sisymbrium, one of the mints, was called (See Bostock, Pliny, IV, 293).

"Hasānu must bear the same relation to "hasū as "šimranu to "šimru, it is described as "a drug for the lungs" ^① to be chewed (KAR 203 IV, 22): "a drug for dyspnoea" to be drunk alone in oil and beer (ib. 203, I, 29). Drink (51, 7, 5): prescribed in fresh water with kukuru for flatulence, etc. (41, I, IV, 35). Anoint for hand of ghost (94, 2 ii, 14). Quantity, 1 bur (91, 6, 3); 1 shekel, with 2 of turmeric, 1 of mastic, and 1(?) of balukku (Johns ADD II, No

^① Cf. PL 48, Rm. 328, r. V, 2, "ha-ša-n[u], one of 9 for lungs.

1074, 10). Pliny (NH xxi, 89) says there are two kinds of thyme, used for coughs and the intestines: the smell revives an epileptic (cf. "hand of ghost," above). Thyme is also used for hardness of breathing.

Presumably the two kinds are *T. vulgaris*, L., and *T. serpyllum*, L. BMP 205 gives oil of thyme as a local stimulant, used for decayed tooth, rheumatism, sprains, etc. It is curious that we do not yet know the Sumerian.

○

§ 60. (1) GĒŠTIN, KARANU (87), VINE, GRAPE, WINE.

(a) GĒŠTIN (28) 4, 4, 6 : 34, 3, 9 : 39, 6 iii, 1 : 40, 6, 4 : 43, 1, 25 (plural) : 48, 4, 11 : 51, 3, 9 : 56, 1, 6 : 58, 2, 14 : 59, 1, 26, 34 : 60, 1, 8 : 66, 7, 13 : 69, 1, 10, 18 : 69, 3, 12 : 70, 8, 1, 4 : 72, 2, 4 : 76, 1, 10 : 84, 4, iii 5 : 87, 1, 12 : 87, 5, 9 : 88, 3, 7 : 8, 1, 9 : 90, 1, 6 : 96, 1, 12 : 97, 6, 4 : PA GĒŠTIN (1) 39, 6 iii 2.

(b) — kábu (4) 2, 7, 7 : 21, 4, 5 : 49, 6, 8 : 80, 1, 16.

(c) — ŠUR(RA) (16) 40, 4, 9 : 40, 8, 10 : 43, 6, 2, 8 : 48, 2, 4, 5 : 50, 5, 3 : 55, 6, 6 : 57, 1, 1 : 58, 2, 6 : 60, 1, 20 : 63, 1, 13 : 66, 7, 2 : 82, 2, 11 : 90, 2, 12, 13 : 95, 1, 11.

(d) A.GĒŠTIN.NA (vinegar) (20) 7, 3, 1, 4 : 9, 1, 44 : 20, 1, 39 : 23, 2, 12 : 28, 1, 4 : 28, 7, 7 : 32, 1, 10 : 49, 6, 6 : 50, 3, 5 : 65, 5, 8, 15 : 67, 4, 5 : 77, 5, 7 : 79, 5, 3 : 89, 3, ii 13 : 90, 1, 7 : 96, 6, 2 : Quantity $\frac{1}{3}$ ka 41, 1, iv, 21 : 66, 7, 19.

(e) — BIL (fresh(?) vinegar) (3) 5, 3, ii 13 : 37, 10, 9 : 92, 4, 6 : (GĒŠTIN BIL 55, 1, 11 without A).

(d) GĒŠTIN.DAN.GA (dannu) (6) 59, 1, 42 : 66, 1, 5 : 66, 7, 7, 9, 22(?) : Quantity 57, 5, 3, $\frac{1}{3}$ ka.

(e) A.GĒŠTIN.DAN.GA ("strong vinegar") (5) 9, 1, 33 :

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§ 60: § 61.

57, 1, 7: 58, 1, 12: 78, 4, 2: 84, 17, 5:

(f) GEŠTIN.AN.NA. 27, 6, 2.

Various: 14, 7, 4: 66, 1, 8: 94, 2, 2.

M. 13, 2, 15 gives the following in sections:
 ll. 14-18: karanu (vine), murdinu (rose), pilû^①,
 karan šelabê (one of the Solanaceae); ll. 19-21:
 ini alpi, sahtu (i.e., iGEŠTIN.ŠUR.RA) (= "ausgepresste
 Wein," p. 33, quoting Kü. 144), muziku ("mischwein")
 ("2 fügt die Zeile ein": iGEŠTIN.GAM.MA = ka-ra-an
 li-e): ll. 22-25 (all iG.GAM.ME) karalanu (=
 karan lani, Meissner, 33), ta-ra-la(?) - nu, kippat
 ikarani, dillat ikarani.

○

§ 61. LU.ÚB.(ŠAR) (lubbu?)(2), "LU-UB..(1), (90, 1,
 18), *BEANS.

Once in some meat dish, LU.ÚB.ŠAR ar-ma-
 nim tābtu ellitu PAT šer kalīti, etc. (85, 3, 7). Otherwise
 in CT. XIV and AM for comparative purposes: [LU].ÚB
 ša kima HI.ŠAR = "zibibanu (§ 9 M, l. 115); LU.ÚB
 ša kima HI.ŠAR = ezissu (§ 9 B5, l. 470). "When
 a man is sick of a cough (sualam), thou shalt cook
 leaf of arneglosson kima LU.ÚB.ŠAR, like
 LU.ÚB." (80, 1, 18). It occurs as lubbu (Scheid RA
 XVIII, 60, VI, 130).

It is clearly a common culinary vegetable
 without much, or any, medicinal value. SU.LU.
 ÚB = lubbu (SAI 8218), a leather object, which
 helps us only so far as to suggest that LU.

① Meissner, 32, quotes CT. XVIII, 34, 76. pilû ša karani.

UB.SAR is to be read lubbu. The obvious comparison is "لُبِّيَا", "لُبِّيَا" haricot bean, which I have seen growing near Basrah.

"Zibibanu (above) might be ~~be~~ philologically (Nigella, § 10 M), a little difficult to reconcile with "a *bean like HI.SAR"; ezissu, lathyrus, a vetch, is easier in a similar comparison. Arr. - lsson (above) can be cooked "like *beans": the meat dish given above is what the French would call a haricot: "beans, apricots, clean salt, bread, kidneys ..." (it is hardly necessary to mention that fruit such as raisins is often cooked with meat in the East

§ 62. "LIDRUŠU

"Lidrušu (22, 2, 13): "lidruša (94, 2 ii 13).

Use: (a) Simply (6), EXT. anoint (94, 2 ii 13: by itself in oil, KAR. 205, o. 1); for temples, alone in oil, followed by hit "abuka[ti]... (20, 1, 10): bind 52, 3, 4).

(a), or perhaps (b), for mouth, 79, 1, 7).

(b) SEED (1) with "sihu and "arganus for swelling (73, 1 ii 4).

In Harper, Letters, No. 450, 8, directions are given for washing feet and hands in "Lidruša and kulkulani.

§ 63. "MA. ERĒŠ. MĀ. LA (6), Salvia(?), SAGE(?).

Spelt in its second component PIN (= ERĒŠU, 5, 1, 13: 5, 5, 14: etc.): NIM (PL. 23, K. 259, 12): ETI +

NIN.LIL (KAR 203, 0.11: Kü ii, ii, 54); ~~eri-is~~ (69, 2, 7). Last syllable LAL (= LA, 5, 5, 14), li-e (5, 1, 13). MÁ.NIN.MÁ.RA (60, 3, 13: cf. 2, 1, 9).

(a) Simply, for hollow tooth (PL 23, K. 259, 12): KAR 203, 11): ext., ~~feē~~ (69, 2, 7): for grey hair in youth (5, 1, 13, with the heads of a black raven and a hawk, etc. in oil^①; similar to SM ii, 691 [against white hair]:

"mix the fat of a black raven with ~~oil~~."

(b) Juice (Kü ii, ii, 54: 5, 5, 14): for head (?) (2, 1, 9).

Quantity, $\frac{1}{3}$ ka (2, 1, 9) -

(c) OIL [drink], stomachic (Kii i, i, 19).

From its use in toothache, and as stomachic it would appear to have carminative and narcotic properties. Its use in hair dye is peculiar.

The Salvia (Sage) appears to fulfil the essentials; *S. sclarea*, L., found in Palestine (Post, 625), where it is a native (PC xx, 373): it has narcotic qualities. *S. officinalis*, L., is a stomachic.

Herzfeld (OLZ, Bech. ii, 35) saw two kinds at Kalah Shergah.

§ 64. "MAŠTABBA (II)

(a) Simply (9), EXT., anoint (16, 4, 14: 37, 3, 4): for ašû (parr?, 55, 8, 5: 64, 1, 22): apply eyes (8, 1, 17: 19, 6, 5, 7, 10): wash dik[šî] (bruise, 97, 5, 4) -

(b) "SEED OF BAR" MAŠ;TAB.BA", assuage šiggati (blains?, ext., 32, 5, 5).

① The "black raven" enters into Pliny's receipts for this (NH, xxix, 34).

It is thus a plant, apparently with anodyne properties, not common, and used always ext.

"BAR.BAR (drink, 55, 2, 3), probably not to be included

§ 65. "IN.NU.UŠ, MAŠTAKAL, MARTAKAL, MALTAKAL (25)

It occurs in the first line of the series to which K. 267 belongs (PL. 22, Colophon, 53) ... "ERLI.AN.NA

= "mal-ta-kal, which must be the same as Del.

HWB, 434 "er-na-nu: "mal-ta-kal. SAI 2805

"IN.NU.UŠ = maš-ta-kal ("IN.NU.UŠ = supalu, § 27)

In Maqlû (iii, 177: vi, 75) it grows in a usallu. In

Šurpu (ix, 9) it springs up in the apsu.

In AM (a) Simply: EXT., bind (98, 38): INT., drink (57, 6, 5: 75, i, IV, 13: 89, 1, 3): with arnoglosson only, for speedy birth in travail (67, 1, IV, 17): with flour of parched corn for some female ailment (67, 1, 5). Chew green (85, 1, 16). Used for saliva (31, 4,

11, 15). Quantity, 2 shekels (90, 1, 9): 10 bur for šalam (cough) and saliva (80, 2, 3). (b) SEED, (4)

anoint for hand of ghost (74, 2, ii, 14), feet (74, 1, iii, 1: 98, 3, 18?). Drink for "hand of ghost" (76, 1, 25)

The curious similarity to Savin (*Juniperus Sabina*, L.) must not be overlooked. The Savin is "a compact, gloomy-looking bush" ... "found wild in the middle of Europe and the west of Asia, inhabiting the most sterile soil" (PC XIII, 147);

It is one of the Junipers: its leaves and tops have a disagreeable odour which depends on an essential

oil obtainable by distillation with water (VK ib.): the fresh and dried tops are official (P. 1030). The use of Savin in medicine coincides with AM: it is ecbotic, emmenagogue (ib. 1338): a local irritant (P. 1030); used for ulcers etc. (Culpeper 225). Its action on the nervous system (GM 459) is perhaps paralleled in "hand of ghost" (seizure?).

In assessing its equivalence, it must not be forgotten that IN.NU.US = both maštaka and supaku, the latter equivalent to 'zabulum, another of the junipers (J. c. , Excelsa, M. B., § 27). Equally ernanu would appear to be the -anu drug from erinu, cedar, not so far removed from the junipers.



§ 66. "NAM.TIL.LA (7) Opium, p. 262. but?

(a) Simply (4) EXT., apply anus (43, 1, 3). INT., drink (Kii iii, ii, 66). (b) ROOT (2): with "ara... "when a man approaches his wife" (65, 7, 5): for allana for KU.GIG (58, 9, r. 5). Its name "Plant of life", and its use in (b) seem to indicate some drug connected with conception.



§ 67. "ŠADAMU (1)

$\frac{1}{3}$ ka (41, 3, 5): a drug "that sickness shall not ... " (KAR 203, VII, 24): anoint (ib. 203, 45).

The sibilant is against ~~šit~~ ^{šit} ~~šit~~ ^{šit} marrubium (Löw, 269). Cf. ADD 1042, 4, where it is included

among juices of various fruits, etc. (see p. 252).

§ 68. ^uKUTRU or ^uKUTRU (21) (= ^uKI.AN.MER, SAI.7314)
 Spelt ku-ut-ru, CT XI, 45, I, 9): ^uku-ut-ri (CT XXIII, 45,
 21).
 (a) Simply (5), EXT.: bind (25, 4, 6): INT., (drink) for
 lungs (55, 4, 10). (b) SEED (11), EXT. (22, 2 v. 11: 73, 2, 18):
 apply eyes (16, 1, 5): probably, bind on (27, 5). INT., drink
 for dyspnoea (59, 1, 40). (c) SEED of ^ukutrate (?)
 bind on, for stomach (39, 1, 3): head, for ku-
 rata (5, 5, 11).

It can hardly be ^uri, Ricinus communis, L.
 (see ^uAG.UD). There is a wood ^uri = ^uri
 a kind of ^uri cassia: or there is ^ukuiteera
^ukuiteera tragacanth (Löw, 49). ^ukuiteera, Trigonella
 monantha, C.A.M., and Trifolium resupinatum, L.,
 were seen at Kalah Snerghat by Hertzfeld
 (OLZ, Beih. II, 36).

§ 69 tak ^vSA.U: ^uSA.U+U, and stone (11):

^vSA.U+U+U, ŠAR

This seems to be the explanation of the
 reading of ^uŠA.MAN (MAN often written U+U).
 40, 5, 21 prescribes ^uŠA.ŠE.ŠE ^uŠA.U+U, ^uŠA.KUD.
 DA KAR.AŠ [ŠAR]. On PL. 26, 81-2-4, 271, 6, 7 occur
 [^u]ŠA.ŠE.ŠE and [^u]ŠA.KUD.DA (see § 9 CM).

ŠA.ŠE (= U+U+U).ŠAR = ^ugistu "onion" § 9 CM,
 l. 678.

^uŠA.U+U is used for KU.GIG (40, 5, 17), and

202. § 69: § 70: § 71
hinikti (89, 4, 6) ... 1 šu of tak u šA.U+U is prescribed
(30, 12, 3).

§ 70. u šUMUTTU.

Simply: on anus(?) (42, 2 r. 8): dispel sorcery (87, 5, r. 5) - fumigate (39, 3, 15) - Quantity, 10 shekels (57, 3 r. 8). Occurs Pl. 42, K. 8807, 4-5 (dup. PL. 27, K. 4437, pointed out by Meissner): CT. XI, 45, 5, šU.MU.UN.DA | u $\frac{DUL}{DUL}$. šE. šAR | "du-u(?) - min - na-bi še-a" / šumut-tum.

§ 71. šE.RU.A, šUŠU (42), Glycyrrhiza, Licorice.

(a) Simply, infrequent, EXT., for feet which cannot walk (68, 1 r. 9): feet (69, 2, 7). (b) JUICE (17) ("green juice" (1), for feet, 73, 1, 31). EXT. (54, 7, 9: 57, 6, 10?): feet (69, 7, 9): bind (52, 5, 14: 83, 1 r. 25): apply swelling (alone, 74, 1, 16). Apply to a pain (74, 1 iii, 5). For KU.GIG (58, 2, 7), stomach (38, 1, 6: 39, 1, 1). (c) ROOT (5): long prescriptions (17, 5, 5: 22, 2, 2). Fumigate, one of sixteen (91, 1, 8). Drink alone, jaundice (Kü iii, iii, 15). Is "root of GIŠ. šE.RU" for excess of saliva, to be included here (31, 4, 17)? (d) SEED (3) [swelling] quantity [$\frac{1}{2}$ ka] (73, 1, 9). (e) FRUIT (1): anoint (88, 2, 10). (f) Uncertain part, drink, urinary (66, 7, 21).

Correctly identified (Kü. 66) with Glycyrrhiza glabra, β violacea (BFoil, 202).

Pliny (NH xxii, ii) gives as wide a range of

prescriptions as AM. The root boiled down is for pessaries; pounded, as liniment for wounds. The licorice-powder is sprinkled on ulcers of the mouth, and films of eyes, and heals excrescences. Chewed and applied to wounds it stops bleeding. Theophrastus mentions a sweet Scythian root good for asthma, dry cough, and pectoral diseases (FH 156). SM shows a similarity to AM: applied locally (II, 56, 61, 679, 683)

Another word appears to be sillibanu (v. Behrens LSS II, 90. _____ ○ _____)

§ 72. ^uTU.LAL.

(a) Simply (5). EXT., bind for cough (50, 3, 2): used for swelling (73, I ii 5). Venereal (? 32, I, 12, use uncertain). Drink (87, I, 11). (b) SEED (1) fill penis (alone, 62, I ii 4). (c) JUICE (1) (101, 3, ii 6). Cf. Scheil, RA 1916, 37, I, 22: ^uTU.LAL PA ^{isu}bini | AN.BAR.SIR: ^usi | ditto. _____ ○ _____

THE CEREALS, ETC.

§ 73. ŠE + BULUG (47) BUKLU, *MILLET.

(a) Simply (4), EXT., poultice ($\frac{1}{2}$ ka, KU II, I, 11): wash (98, 3, 2): (tešikkir) X. ZIZ.A.AN (83, I, 10): (b) ZI(D) + X (15) EXT., apply KA (tooth or mouth, 21, 7, 4): bind (92, 4 x 5: 93, 2, 1), on head against samanu (1, 2, 11). As medium for mixing (18, 5, 8). Quantity, $\frac{1}{2}$ ka (15, 3, 18, 55, I, 11). (c) IŠ + X (3), KU. IŠ + X (1)

- (d) A + X (5) (16, 2 r. 2, 3, 4 : 70, 7 ii 9). (e) KIL + X (6), EXT (32, 9, 10, for blains ?): stomachic (40, 1, 61): on aching tooth with B.I.U.S. and oil (25, 1, 8). Cf. CT xvii, 50, 25 (where read accordingly). Quantity, 1 KA (40, 1, 61; 70, 8, 5?). (f) ZI(D). KIL + X (1) (82, 1, 8). (g) UŠ. KIL + X (1) (57, 7, 6). (h) BA.BA.ZA (puppasi) + X see Hrozný, Getr., 106. (i) UŠ + X (1, 2, 15, bind on head for samanu). (j) ZI(D). ZI(D) + UŠ + X (1) anoint and bind on feet which cannot walk (68, 1 r. 17). (k) U-rul + X ŠAR (1) (68, 1 r. 2). (l) tap-pi + X (1) (96, 1, 2) anoint. (m) PA + X (1) (1, 2, 19). Uncertain forms: bind (52, 3, 4; 96, 1, 9).

I cannot agree with Hrozný (Getr. 154) that this is "malt". Clearly from the above collection of instances it must be a grain.

Cf. MA 182 quoting Hommel, Sum. Les., 123-4, kima bukli lihaššulka, hašātu being the regular word for beating out corn.

Millet is a common grain in S. Babylonia, and the comparison between BULUG and 𒍪𒍩 Panicum miliaceum, L. or perhaps P. italicum, L. (Löw, 101). The latter authority suggests $\text{𒍪𒍩} = \text{𒍪𒍩}$, a very probable comparison. If this is correct, it would seem that we have BULUG = buklu = $\text{𒍪𒍩} = \text{𒍪𒍩} = \text{Panicum} = \text{"Millet"}$. It might also be possible to see melica (= panic, Murray, Dictionary, VII, 1, 423) as a doublet from BULUG. See § 1000.

I see that Geller, *Altor. Texte, I, A.344* takes it as Grütze.

§ 74. ŠE.GIG.(BA) (2) (= kibatu, Smith CTxxxvii, 29, 36),

Wheat (Hrozný, *Getr.* 8) : ZI(D).GIG.(BA) (35)

Wheat-flour (Hrozný, *ib.* 99) : ŠE.BAR (= uddatu or uttatu, Smith, *ib.* 35) (1) barley, sometimes corn (Hrozný, *ib.* 208).

a) ŠE.GIG, 7 še (91, 4, 10).

b) ZI(D) GIG(BA), EXT. (32, 5, 10), bind (51, 8, 6 : 93, 2, 3 : 96, 1, 8, 15), for hand of ghost (93, 1, 15), for mouth (79, 1, 7). Quantity, 1 ka (45, 4, 3 : 56, 3, 2). BAR.ZI(D).GIG mentioned (63, 6, 7). A kan-kallu (53, 1, iv, 6).

c) ZI(D).ŠE.BAR (11, 2, 39).

As Hrozný (p. 8) points out, the equiv. of ŠE.GIG.BA is 𐤔𐤍𐤁𐤍 (Delaporte, *Épig. Araméens*, 86). Delaporte, 68 (BE IX, No. 108) on the other hand, shews 𐤔𐤍𐤁𐤍 = ŠE.BAR. But ŠE.BAR sometimes defines or interchanges with ŠE.GIG (cf. Hrozný, 208; *Zehnpfund, BAI*, 516; Johns ADD III s.v.)^① I do not propose to discuss it further except by suggesting that it may = uddatu, 𐤔𐤍𐤁𐤍 the sharp or spiky (corn), rather than uttatu 𐤔𐤍𐤁𐤍.

§ 75. ZI(D).KU (35), fine-ground flour. (Hrozný, 117).

(a) Simply, always : EXT. (32, 5, 10), bind (84, 4, iv, 5 : 93, 2, 3) : eyes (8, 1, 9) : apply ears (36, 1, 6) : uncertain use : stomach "taking fire, mix with licorice in rose-water" (39, 1, 1) : breast (51, 12, 7) : cough (80, 1, 20). A medium for mixing (8, 1, 9 : 22, 1, 7 : 36, 1, 6 : 73, 1, 19, 23, 27 : 74, 1, 12 : 79, 1, 14, 22). Quantity $\frac{1}{3}$ ka (6, 3, 9).

^① I am indebted to Mr. Sidney Smith for some of these.

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§76 : §77 : §78

§76 Z12.A.AN(25) Triticum vulgare, Vill. (Hrozný, 54).

(a) Simply, frequently: "constriction of lungs" (53,4,18).
Quantity, 7 še (91,4,10). (b) Z1(D) (5): bind (98,3,11)
(c) ŠE (1) (91,4,2). (d) li'u (4). (e) bread (3).

T. vulgare, Vill., is used in India as a demulcent, the flour as a local application, and wheat-en bread as poultice (WPI 254).

§77 ŠE.SA.A (24) parched corn

(a) Simply (6): EXT., bind (20,1,19), for swelling on heel (73,1,19). Uncertain use, for assuaging šibur mišitti (82,2,9). Quantity, 10 shekels (20,1,19). (b) Z1(D) (17) EXT., bind (49,4,2 : 98,3,10), eyes (14,1,7 : 16,1,1), temples (20,1,20,37) : for samanu on head (1,2,19) : as a medium for mixing (13,1,5 : 79,1,25). Enema (94,2,8). INT., drink with "IN.NU.UŠ in oil and beer, female ailment (67,1,iv,9). (c) Z1(D), Z1(D) (1) (37,7,3). On ŠE.SA.A = kalû "bP", see Zimmern, ZDMG, LVIII, 951 : Hrozný, Getr., 78.

The equivalence is confirmed by 36,1,7
kašî kima šE.SA.A ta-gul (Bt. 939) - lu
"roses like parched corn thou shalt
roast"

§78 ŠE.12.NI, šamaššammu (24) sesame

(a) Simply (4), EXT (19,2 ii 6).
(b) GAB (12) EXT., swelling (73,1,9). Uncertain use, mišitti mîti (79,1,18). GAB, ŠE.12.NI ud-du-tim (UD.DU.-tim) (6,9,9 : cf. 6,3,4). Quantity

$\frac{1}{2}$ ka (73,1,9 : 77,1,20). (c) ZI(D). GAB(3) : EXT., hands and feet (98,3,14). Quantity, 10 shekels (632,3). (d) SEED (1) (20,1,ii 8). (e) EPIRU "dust" (2), bind on head for samanu (1,2,ii,14) "wax"

The GAB (as in GAB dišpi) may be the peculiar mucilage which comes from the leaves (BMP No 198) and is used for poultices (PC. XXI, 290).

§ 79 GÚ.DÙ (21) ^o Trigonella fœnum-græcum, L.

For the plant see p. 38, and cf = "ditto = kak-ku-u for ŠE[GÚ].DU p. 278.

(a) Simply (5), EXT., bind (84,4,IV,5), feet (74,1,33): on head (3,6,ii 8): 7 ŠE (91,4,ii). (b) ZI(D) "flour" (14) EXT., bind (96,1,8), head (3,5,9), breast (51,8,3): used for eyes (13,3,9): for samanu (probably scab, PRSM 1924, 3³) (1,2,19). With urnâ through a reed in mouth (Kii ii,iii,57). Quantity $\frac{1}{2}$ ka (15,3,18). (c) tak GÚ.DÙ (1) (60,1,5).

Ebeling (Arch. XIII, 16, n. 6) gives it = pu-li-li, but translates it "Linsenmehl(?)". But pulili must be ~~be~~ fenugreek, one of the leguminosae, which harmonizes well with GÚ.GAL = lathyrus (§ 80). It will be noticed that neither GÚ.DÙ nor GÚ.GAL are included in their equivalent sections § 9B1, 9E. In SM Trigonella and its flour are frequent: note SM ii, 693, flour for scabies.

§ 80 GÚ.GAL, HALLURU, 𐎧𐎠𐎫𐎠, a kind of Lathyrus.

(a) Simply (3), EXT., bind (84,4,IV,9), on eye-bruise (96,1,12): 7 ŠE (91,4,ii). (b) ZI(D) "flour" (16), EXT., bind (37,7,4 : 96,1,8), eyes (8,14; 13,3,9), breast (51,8,3): for samanu on head (scab, 1,2,19).

Hrozný, OLZ 1913, 52 = 𐎧𐎠𐎫𐎠, a certainty

208.

§ 80 : § 81 : § 82 : § 83 : § 84 : § 85 : § 86

when considered with the preceding section.

————— 0 —————

§ 81.

ŠE.IN.NU.HA (2)

(a) 7 ŠE.IN.NU.HA (91, 4, 10) : (b) ZI(D) "flour" ŠE [IN.NU] HA (EXT. mišitti, 77, 8, 10) : (c) ŠE.RU ŠE.I[N?...] fumigate 99, 3, 11). "Probably a kind of barley" (Hrozný, Getr. 74). See ŠE.IN.NU. § 86, and p. 278, l. 50. = "[innun]nu.

BARLEY

§ 82.

ŠE, ŠE'U (2) CORN, (Hrozný, Getr. 156 etc).

(a) ZI(D). ŠE fumigate (101, 3, 10) : ZI(D). ŠE.MEŠ, ditto (ib. 16) is 1/2 ka ZI(D). ŠE dambku to be included here? (77, 5, 6)?

————— 0 —————

§ 83.

ŠE.BAR (1) See § 74. For an instance

of ŠE.BAR = CORN in general of ŠE.BAR ša sah-li-e, Demuth, BA iii, 486

§ 84.

ŠEŠTUB (ŠE.GUB), ARSUPPU (2)

M. 13, 16, l. 49. MA + GUNU.GUB = arsuppu.

On arsuppu = ^{ak k + al barley} see Ungnad, ZA 1917, 289

————— 0 —————

§ 85.

ŠE.ŠAG (ŠE.LUČAL), IARAHHU (1)

(91, 4, 2).

————— 0 —————

§ 86.

ŠE.IN.NU (INNINNU) (1)

(91, 2, 5). See Hrozný, Getr., 74, and § 81

————— 0 —————

For other groups beginning ŠE see p. 278.

————— 0 —————

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(1) ^uEkulla, ^uElgulla, ^uEdigulla (9) (2) ^uMUH (= eli)-
 k(9)ulla (10), (3) ^ul~~r~~kulla (5). (4) ^uAN (= il)gulla (1)
 It is not easy to distinguish between these.
 For convenience all are placed here. (See p. 25)
 (1) occurs in the same prescription as (2)
 (59, 1, 38; 97, 4, 11). It is used simply to anoint a
 scorpion-sting with 8 others (91, 1, r. 7); anoint
 (95, 2 ii 10); 97, 4, 1, 15), temples (103, 21). Drink (89,
 1, 1) for dyspnoea, (39 others, 59, 1, 38) : ghost-seizure
 (14, 5, 4).
 (2) occurs as above twice with (1). Anoint
 (97, 4, 12); temples (10³, 1, 21). Drink for dyspnoea
 (59, 1, 38). Use when "spittle is not stayed in
 the mouth" with "IN.NU.US, etc. (31, 4, 15); for
 maška 31, 1, 8). Seed (1) (83, 1, 19). A red kind
 of (2), to anoint in oil when fingers prick
 (14, 5, 2).
 (3) occurs in the same prescription as (1) (89, 1, 1,
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 (4) anoint (45, 1, 9).

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(10) PASSAGES FROM THE BIBLE —


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ADDENDA

After almost all the preceding pages were ready for publication the British Museum issued the copies of two early Assyrian tablets of plant-lists in CT XXXVII by Mr Sidney Smith. These have now been incorporated in this monograph, either here in this appendix, or by re-writing some of the pages and emending others. Mr Smith's copies are admirable; he has been most kind in collating passages which I thought were doubtful, and his collation, as a rule, merely reiterates what is already to be found in his copies.

Plate 26 ff. No. 108859. Col. I, generally duplicate of K. 4199. (Meek, RA 1920, 138), whence I have added the variants in footnotes.

Col. I.

| | |
|--|------------------------------------|
| 2 . . .  MAH ^① | |
| 3(a) . . . siri | |
| (3(b) . . . ka-me-e | |
| lipû niš-ti | ② ka-bar-ti ka(kadi?) ^③ |
| lipû NAM.MUW.GIŠGAL.LU | ④ "HUL.GIL.TAK(or UŠ) |
| lipû "su-ul-ti ^⑤ | lipû " |

① v. siri
ling of h[ead?]"
p. 21, l. 448.

② v. ZAL... i.e., lipû
③ "Swel-
ling of h[ead?]"
④ Opium. p. 5, l. 73. ⑤ Opium

| | | |
|------------------------------|----|-------------------------------|
| | DA | "sa-me-[du] ① |
| [lipî e]riš-ti ② | | "aš-šu-ul-[tu] |
| [lipî] a-bi-ik-ti ③ | | pi-zal-lu-[ru] |
| [lipî nêš DIR.HI.HI | | "MA, ERES(?) MA(?).LA(?) ④ |
| 10. " " meluti GAZ | | ir—ru— u ⑤ |
| [šêr?] širi | | "ša-ki-tu-u ⑥ |
| šêri kakkaširi | | u EL ⑦ |
| [šêr] lišan širi | | "lišan kalbi ⑧ |
| [šêr] ⑨ širi šalmi | | "sa-da-nu ⑩ |
| 15. [šêr] ⑪ MULLU, GIŠĜALLU | | MUN, FEME, ŠAL LUM ⑫ |
| [...] ⑬ NAM, MULLU, GIŠĜALLU | | mê lib-lib-bi ni(?) |
| [šêr] ⑭ LUL.A | | KU.NIK, IS.ŠU.LAL ⑮ |
| [A] šêr ⑯ LUL.A | | A.RI.A NAM [MULLU, GIŠĜALLU]? |
| [šêr?] UR.BAR.RA | | |
| 20. A | | |

For the sake of completion I add the remainder of K. 4199, from Meek's copy:—

(10) šêr ra di ~~šêr~~ šu

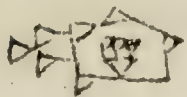
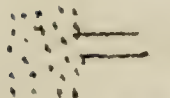

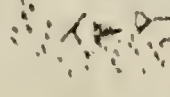
① R. from p. 25, l. 558. ② Cf. p. 34, note ①, "pizalluru"


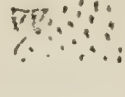
being used for anointing swelling, Abikti may then = "bruise". Pizalluru also on Meek, RA 1926, 146, K. 4605, 11, 7.

④ Or "šah-la-nu(?) ⑤ Confirms my restoration ir-ru-u in §9 G, p. 5, and refutes me-ru-u CT XXXVII, 32, 25.


⑥ "šakitu = "GUR, apparently another form of poppy, or at least an intoxicant (§9 K, and p. 43). ⑦ For "EL see

p. 53. ⑧ Cf. p. 12, l. 200. ⑨ The restoration must be šêru and not dâmu, which would make it ricinus, p. 17, l. 324. ⑩ See

(11) šêr kil-li^①
 mašak kil-li
 šêr AL 
 si-ma ni
 -me-ti


šêr a-ba-
 mašak a-ba-...
 na-...
 ŠE.RU ub-bu-lum ša a-na-...
 ku-da-ša 

CT, XXXVII, 26 continued, Col. II: —

(Ll. 2-10 dup. PL, 41, Rm. II, 497, whence are taken the restorations in round brackets. There are similarities in  GAH, p. 15, ll. 280 ff.).

(zêr) šim. š.š.

zîr [GĒŠTIN.GIR.RA]^②

(zêr i u). GIR



ĪKU.TU [HU.MEŠ]^③




zêr saḥ^④-mi

zîr u GAR.G[AN.GAN]^⑤

zêr u UD

zîr [A.TU.GAB.LIŠ]^⑥

p. 200,  67. ^① Again, šêru must be the correct restoration, and not dāmu, for MUN.EME.ŠAL.LIM "Salt of Akkad" (see my article PRSM 1924²⁶) must be white, not red. ^② See PRSM 1924, 26. ^③ Is this A.RI.A "semen", i.e. [semen] of man = [male?, [UŠ, not ni?] fluid of offspring" Cf. l. 18. ^④ "Fox-meat" from K. 4199. ^⑤ See PRSM 1924, 14, and cf. PL, 37, K 14120, 2 in connection with the present text. ^⑥ R. from K. 4199, "water of fox-meat = [human?] semen." ^① Hardly gilli  "tortoise" Restores.

^② See p. 87, ll. 13-14. ^③ P. 13,  GAB, l. 240. ^④ P. 25,  q30, l. 549. ^⑤ P. 25,  GAB, l. 569. ^⑥ CT XXXVII, 32, l. 13.

5. (šupur) kalbi šalmi
 (šupur a-me] lu-te
 ([š]am a-me-lu-te)^③
 (. . UR ia-ta'-a) A
 (. - an-kul-la - [tu.])^④
 10. (. . HUL)

u HAR ①
 u tu-u- ②
 zir u a-la-me-[e]
 NIP^l zir ka-an(?) . . .
 NIP^l kašari^⑤ IH^{pl}
 u a-ma-ni-u

.

 18 u

u šī . šī^⑥ (= imhur pani)
 (TT six times in column)
 TT

ēnā^⑦ [sa-a-(n)]i ⑦
 20 ku-bar URUDU . . . DIR^⑧
 u šu-[ul]-te^⑪
 u hi-[nik]-ti^⑫
 u P, II
 u kalamu^⑮
 25 u si-š- du^⑯

a-a-ar furasi^⑧
 a-a-ar ili^⑩
 si-la-a-mu
 u^⑬ LAL-
 u KUR . . . KUR^⑭
 u kas^ˆ ŠAR
 LA(?) i al-la-ka-niš

① Can this be u HAR. HAR on the analogy of šupur ameluti (p. 11, § 9V, l. 196)? ② Cf. šupur amelute, as in note ①. For u tu-u . . . cf. CT xxxvii, § 1, l. 53, u tu-ul(?) (or lid) . . . ③ [š]am amelute, No. 108859 having here TT ditto. Cf. p. 16, § 9AH, l. 286 and PL 37, K. 14120, l. 4. "Drug of man = seed of u alamê". On u alamê, and on [u imhur aš?] rā ša ekli = u išid a-la-me-e, PL 37, 81-2-4, 269, l. 3 see p. 72. ④ can hardly be u ilgulla, p. 210. ⑤ ~~TT~~ ~~TTT~~ = kašaru, u šis fit, proper, i. e. an oil proper for lice. ⑥ p. 89, § 10AH. ⑦ For l. 19 cf. K 14051, PL 40, which I give here:

| | | | |
|----|--|--|---|
| ① | u ^u gab-lu-lu | | u ^u su-pa-lum |
| | u ^u AN. ŠIR. LU | | u ^u . [ditto] |
| ② | u ^u ha-šu-tu ša VII fakkadī ^{pl} | | u ^u su : u ^u HAR. . . . |
| | u ^u LUL ③ | | u ^u AG. [UD] |
| | AZ | | u ^u ŠU- |
| 30 | u | | u ^u UR. [PI. PI] ④ |
| | u | | |

(note ① from preceding page continued): B.14031: (1) . . .

(2) ³gu(?)-[uš-ti] (p. XVI, No. 138), (3) [u]gul-gul-la-[nu] (p. XVI, No. 139) | (4) [u]um-ša- . . . (5) [u]GIR: "um-[ra- . . .]" (6) "il-

lum . . . (7) u^ua-ar [furaši] (8) Ênâ II-sa-a-[ri] (9) u^u . . .

(10) u^ulluru . . . (11) u^u . . . Sâru is an animal

mentioned alongside of gazelle, ibex, lion; see Hunger, MVAG, 1909, 86, who quotes Boissier's passage where the carcass of a sâru is mentioned as being found in Babylon in the pure seat of Bêl. Boissier translates "hyena", but the presence of such an animal in Babylon-city is hardly likely. It may be "cat"; the plant-name "eyes of sâru", which = "golden bloom" indicates an animal with yellow eyes.

⑨ KU.BAR, occurring in a-gi-it-tu-u = KU.BAR.ŠIG (CT. XVIII, 9, K. 4233, obv. 33, described as sindu ša asî "bandage of a physician").

⑩ Âr ili = "chamaeleon", for binding on head against grey hair (PRSM, XVII, 1924, 17). ⑪ P. 21, l. 448. ⑫ šam hi[nik]ti

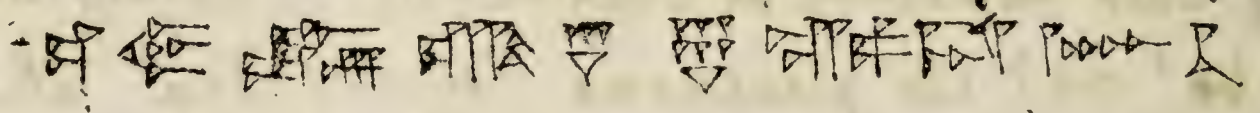
(drug for retention)? or "hi[ri]ti (cf. p. XV, No. 103, esp. as "KAL. A. [B1] (= kalamu) occurs as No. 106, and is here in l. 24. ⑬ P.

99. ⑭ Hyoscyamus, p. 19, § 9 AV, l. 378. ⑮ P. XV, No. 106: "all-plants" = rose, cf. p. 86. ⑯ Si'du, perhaps 𐎲𐎠𐎺𐎠, a cosmetic. ŠU (or perhaps LA, but uncertain after re-

examination of tablet) 'al-la-ka-niš, see p. 171. This tree was introduced by Tiglath-Pileser I in the XIIth Century. 𐎲𐎠𐎺𐎠

is a kind of nut; can it be amygdalus with the bare

(notes continued from preceding page).
 possibility that amygdalus, allakanis (perhaps almond) have some philological connection. LA is a recognized product in AM; it is the astringent "kind" of the pomegranate, and the "shell" of the ostrich-egg (see p. 27). LA 'allakanis' = "si'du, a cosmetic, so that if LA can also mean a "nutshell," there is no little confirmation that 'allakanis' = "almond" in the statement in W. Smith, Smaller Bible Dictionary, 396, that "in Egypt the kohl is a soot produced by burning either a kind of frankincense or the shells of almonds".

② "Hašutu with seven heads", probably the equivalent of  (PL. 10, I, 7, dup. Meek, RA 1920, 181 (s. 1701) (see p. XIII, note ④). This latter plant occurs written out in full in AM at least three times: GIR.*NAG.GA.HU ša VII kakkadī^{pl}-šu (79, 1, 21) bind on: ... GIR.*NAG.GA.HU ša VII kakkadī^{pl}-šu (78, 2, 6); ... GA.HU ša VII kakkadī^{pl}-šu (88, 2, 9) ointment. Twice (or three times) written short "GIR.*NAG.GA.HU 18, 7, 5: "GIR.*NAG.GA.HU (54, 1, 5) ointment body: ... GA.HU (89, 4, 13) (a drug for hinitu): doubtful, "GIR.*NAG.GA.HU...], 18, 5, 4 (+ K, 67, 43, 1), bind on. Its similarity in name to our "crowsfoot" may be accidental.

③ If ka-a is a gloss to LUL.A (rev. iii, 16), read this KA.AZ.

For 29-31 see ^{p. 92} ④ Restore p. XIV, 54 ["UR].PI.PI from this.

| | |
|---|--------------------------|
| NIM. UR. UR ① | IGUG... |
| ② <i>tâmtum rapaštum(tum)</i> KA. [A. AB. BA] | |
| ③ KI. A. ID. HAL. HAL. | ki -i[<i>b-ri-tu?</i>] |
| ④ KI. A. ID. A. RAD | UH [nâri] |
| <i>en-ti si-mat mâti</i> | u |
| [<i>g</i>]u-ru-su gu-ru-su | |
| ni(?) ki šeri(?) | |

Col. III contains other material besides plant names, and we need discuss only a part here. It contains an echo of the order of § 9, ll. 272-453-448. LL. 3-4 ^uUD.DA, cf. *ibaltu*, p. 14, § 9 AD, L. 248. L. 5, perhaps [^uGUR].DINGIR BABBAR, cf. p. XIII, l. 20, after l. 18 [^u]mibi' *ibalti*, and 17. ^upukuttum. The right-hand equivalent is nam-mu-^uis-]. L. 8, KU.MA [LAH. LAH?], cf. p. 14, § 9, AG, 259, following ^u*ibaltu* § 9, AD. L. 11, INTIG.

① Restores p. 18, l. 351, giving an alternative GUG.. (*sâmtu*) for *šammu sâmu*. ② P. 18, § 9 AS. ③ On KI. A nâri = kibir nâri, and kibritu, = sulphur see my article in PRSM 1924, p. 2, note 6; there it is especially "bank of Tigris". ④ "Bank of Euphrates", helping to confirm meerschäum, magnesite (PRSM ib. p. 14, note 5).

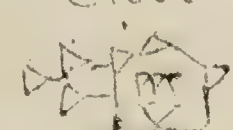
EN.NA = ha-a-pu, Its other value siknu ša nâre, "sediment of the river" (KIA, see Jensen, KB VI (1) 476 shows that hâpu is probably 𒀭𒊩 "bank", and not 𒀭𒊩 "wash" (cf. the passage quoted, PRSM 1924, 14). It is difficult to identify the particular chemical in the mud of the alluvial rivers of Mesopotamia to which this refers.

L. 12, cf. p. 2, l. 6. L. 17, hašuru = [šur?]-me-nu, cypress. According to II R, 67, 76, cedar-beams are as fragrant as hašuru-wood. VR, 26 q-k, 18, the hašuru grows in groves. The mountain Hašur is the locality of the eriu "cedar", and since ZA 1916, 90 (Schroeder) speaks of "the water of the Tigris, the water of the Euphrates clear, which from the springs to Hašur flow," it must lie N. of Assyria. L. 24, [uša-mi] ra-pa-di = ka-si širi (p. 15, 9 AG, l. 272). L. 27 [u]e-zi-zu = a-ru-šu ma-ru (p. 22, 9 BT, l. 453 u-e-zi-zu = a-ru-šu mar-ru): L. 28 [u]šu-lu-tu = u-si-lam-mu (p. 21, 9 BH, l. 448, u-šu-lu-tu = si-lam-mu).

COL IV continues:

2. ① [G] I, ŠUL, ŠAR
 . . . NA, A

KU
 u

① [i U.GIR ša] eli KI.MAH elû š
 5. ša ina KI.SIR elû š
 [. ②] ša ina eli
 šI.RU.NA ša šadē(e) u
 KA uš ša ekli u
 10. u LAL ša ekli ③ zir
 šī šu ekli išid
 pl v ša ina mē pl ušâ(a)
 [lipê kal] bi šalmi ša ina mit-hu-si iz(?) ④
 lipû ⑤ u [GIL] [GIL]
 15. u tar-mi-i ša ekli š KU.KU u
 -pi-nu ša šadî(i) išid
 -nu ša ekli u šah(?)--
  GISAL. ?
 RA ša ina me-lul-[ti imutu] ⑥
 -la ša
 amelûti(u-ti) A.RI.A NAM.MULLI, GISGAL. [LW]

BUR.MEŠ

AB.ŠAR

① p.73. ② It can hardly be right to read [u NAM]TIL.
 LA here (= opium, CT XXXVII, 32, 28): šamru = fennel.
 But, in connection with p.73, we should expect
 i U.GIR instead of „šam-ru. ③ "u LAL" of the field"
 a species. For "LAL see p.
 99. ④ Opium, p.5, § 99, l.72. ⑤ "Fat" =
 opium. See p.5, § 99. ⑥ Cf. p.5 § 99.

ADDENDA

No. 108860 is a tablet in which the scribe has made several obvious errors in his copy. The following are the more obvious:—
 Col. I^① (p. 32), l. 25, ^ume-ru-u (me practically certain, and definitely not ir), error for ^uir-ru-u (cf. p. 5, l. 60 ff.). ~~L. 12, ^uku-
^šak-ku follows Rm. ii, 203 (PL. 16) (re-ex., and certain) rather than [^uku] ^šak-ku of K. 267 (PL. 21), Col. VI, 21, which seems to indicate a doubtful text, for a foreign word even in a Kouyunjik tablet.~~

Col. II, l. 27, ^usu-pa-ru, error for ^usu-pa-lu (cf. p. 160, dup.). L. 31 ^ui.NU.UŠ for the ^uIN.NU.UŠ of the dup., p. 160. L. 41, 47 must both be the ^ua-na-me-ru of p. 11, ll. 175 ff., but the characters appear to be as Mr. Smith gives them, or, at least, ^{certainly} not ^ua-na-me-ru. Na on this tablet is clearly ^uNA.

Col. VIII l. 12 ^usabaginū, obviously an error for ^usapalginū (K. 1900, pp. 22, 23, l. 477. L. 14, ^uTA.RI.ZA.AH for ^uTA.HU.ZA.AH (HU certain) on p. 23, l. 479. One is wrong. L. 25, ^uha-tir-ti for ^ua-tir-ti, p. 22, l. 450, ~~be~~. L. 42 ^uha-ra-zi-aš and ^uha-ra-zi-un for the more usual ^uha-ra-zi-uš (a Hittite word), perhaps reasonable

① In spite of the shape of the tablet I believe what is apparently the obverse should be the reverse. There are eight double columns.

ADDENDA

No. 108860, Col I (IV), p. 31.

LL. 1-5 duplicate of 89E, p. 4.

LL. 6-12 part dup. 889AA, AB, p. 13

L. 11 u-ka(?) - ša-ku, form for [ku] - ša-ku (L. 232), but perhaps my restoration [ku] is wrong. Ki-na-hi for Ki-na-ḫi.

L. 12, ~~ku-š~~ - šu-tum = u-ku-šab-ku, as on Rm II, 203, I, 9.

LL. 13-14, restore p. 16, before l. 310. See p. 135 ff.

| | | | | | |
|----|---|---------------|---|-----|-------------|
| 13 | u | UD | u | ḫil | ATU.GAB.LIŠ |
| 14 | u | ša-mu pi-su-u | u | | ditto |

LL. 15-19 restore p. 17, 89AP.

| | | | | | |
|----|---|-----------------|---|-------|------------------------------|
| 15 | u | ša-mu MI | u | at - | kan |
| | u | ša-ga-be-gal-zu | u | ditto | ina ḫlama(ma) ^{ki} |
| | u | bu - šu | u | ditto | ina Ah-la-me-e |
| | u | ḫi-nu(?) - bir | u | ditto | ina ^{matu} Akkadiki |
| 19 | u | AG. UD | u | at - | kan |

LL. 20-24 restore p. 17, 89AQ.

| | | | | | |
|----|---|---------------------------|---|---------|-------|
| 20 | u | ša-mu DIR | u | is-pa - | ru(?) |
| | u | ša-mu AŠ | u | | ditto |
| | u | GIR.PAD.DU MULU.GIŠGAL.LU | u | | AŠ |
| | u | ditto | u | is-pa - | ru(?) |
| 24 | u | ŠA. PA | u | | ditto |

LL. 25-37 restore p. 5 ff. 89GI.

| | | | | | |
|----|---|----------|---|-----------------|-------|
| 25 | u | HUL. GIL | u | me (sic) - ru - | u |
| | u | ša-mu | u | | ditto |
| | u | na-at - | u | | ditto |

| | |
|---|---|
| 28 u ^u NAM.TIL.LA ① | u ditto |
| u ^u šī. šī ② | u ditto |
| 30. u ^u im-hur AAAPAA | u ditto |
| u ^u bu-la-li | u ditto ina šu-ba-ri |
| u ^u a-zu-mu | u ditto |
| u ^u ša-mu marru | u ditto |
| u ^u marat ekli | u a-ra-[ru] |
| 35. u ^u ŠA.LAM.BI.TUR.SA | u |
| u ^u a-ra-ru | u ha-za(?) - ba(?) - [tu] |
| [u ^u] a-ra-ru ut-liš | u lu-lum-[um] sântu |
| LL.38-43 part duplicate of p.1, 89A: | |
| [u ^u] um-sa-tum | u el-pi-[tum] |
| u ^u | u ib- |
| 40 tum | u el-pi-tum šadi |
| [u ^u] el-pi-tum šadi | u maial ^{ilu} Istar ^u ③ |
| [u ^u] sa ^u -a-mu | u šis,ku el-pa-te |
| [u ^u] ša-mu sâmu | u ditto |
| [u ^u] GIL | u kalamu AAAP |
| 45 [u ^u] sa(?) - da - mu | u ditto |
| u ^u | u ša-mu šik ^{pl} |

(In the above section [u^u] GIL = "all plants . . ."; for "sadamu" see p.200.

① A new equivalence but not above suspicion.
 ② Certainly not the opium (see p.89), nor the next line. ③ Lulumtum settles the equivalence with lulutu (p.38).
 ④ ~~AAAP~~, but cf. 89, B, L.2, doubtless "sa-a-[mu]" in the hand column. Cf. Pl. 29, 28 of CTXXXVII, "sa-a-...".
 ⑤ Like ma-a-a-al^{ilu} AZAG, 29C, 16.

ADDENDA

L. 46, cf. AM 59, 1, 37, drink "ŠIK.MEŠ ša šarġ (l) for dyspnoea: for stomach (Kii II, 1, 37).

Ll. 47-48 dup. of part of p. 3, 99, D.

47 . . . -tum | "a-ra-an-tu' ①

"a-sir-ra-tu

L. 49, probably dup. p. 12, 99 W.

"lišan kalbi

L. 50, perhaps dup of p. 14, l. 253.

50
51

ina mātu' E

Ll. 52-54, duplicate of p. 7, 99 J, ll. 86-88

52. [ka-na-šu-u? | a-du] mā-tu ina mātu Marra-tu

53. [ka-na-šu-u tam-šil ilu] NAM. TAR

54. [arē^{pl}-šu mārē^{pl} sinni^{pl} ka-zi-ṛ] i iṣū

L. 55 follows in the order of p. 7, 99 K, and then follows a duplicate of PL. 35, 79-7-8, 187 (for reverse read obverse):

55 [u HAR. HAR]

[u karan] šelibi

ditto

ditto

[i ina šu-ḡari

59

[u ur - nu -] - u?

[u ur - nu] - u?

"

"

62

(see p. 7, 99, L.)

COL. II (III), pl. 30:

Ll. 1-9, duplicate of p. 9, 99, P: L. 4 gives

ia-ar as variant for a-a-ar. L. 6, "kil(?)

-sal-lum-zi possibly explains or restores l. 139.

LL. 10-17; duplicate of p. 10, § 9Q, ll. 148-162: L. 10, ia-ab, variant for a-a-ab: L. 11, tarbuti for tarbû. L. 16 shews that the reading should be "Ku-ra-aš-ti in § 9Q, l. 154, a drug for what may be itch (see my article, PRSM 1924, 4, n³) of preceding page. L. 18-20, "Ellibu in common speech is "NIGIN.ŠAR, its fruit red": cf. § 9Q, l. 156, and for "NIGIN.ŠAR p. 161. L. 19 "šū-u-ku must surely be the Ar. אֶשְׂרֵי "thorn", but how it is to be explained in this connection is doubtful. Its left hand equivalent is uncertain.

LL. 21-50 bears out the order on § 6 (see p. 10) LL. 21-25 and U. 26-32:

Herein are discussed the important plant-names "AŠ (= edu, by comparison with § 6^{and} p. 10) and "supalu.

| | |
|-------------------------------------|---------------------|
| u ša-mi ^{du(?)} šiš(?) GAL | u [AŠ] |
| u la-pu-tu | u AŠ[ina] Aš-la-mi |
| u ka-an-zu-u | u [»] ina šū-ba-rim |
| u ša-mi AŠ pl | u AŠ |
| 25 u GIR.PAS.DU MULU.GIŠGALLU | u AŠ |
| u ša-mi kišti | u la-sir-bi-tu |
| u ša-mi KU | u su-pa-ru(!) |
| u ša-mi ka-ka-ri | u ditto |
| u ša-mi e-si-a | u ditto |
| 30 u hal-bi e-lu(?) | u [ditto] |
| u [!!!] - ^{NW} UŠ | u [ditto] |
| u si(!) - ^A p[ā-lu] | u mal-[AŠ-tum] |

We can now discuss §10Q3 fully. "Aš" = "edu" is thus a "single" plant, growing in Aḥlami and Šubari (called "iaputu and "kanzli" respectively). "A drug for Aš.pl (= tanukāti) must mean "a drug for screaming"; l.25, "the human-bone drug".

"Aš" is used in AM (15ll): (a) SIMPLY, (y) EXT., bind temples (103,15), anoint (14,2,14; 94,2ii,15) [hand of ghost], 20: 35, 2ii 9: 37,4,10): eyes (14,3,3). INT, drink (89,1,1), urinary (66,7,8). (b) SEED (6) INT, drink (89,1,1: 90,1r,17), for dyspnoea (89,1,38,43(?)). Quantity, 1 šu (= 1 shekel(?), 41,1iv,25). In Langdon, RA 1916,31,l.41, it is called - hîl haḥḥû "gum for coughing" (or similar) (not "food of the insect haḥḥû", and an omen is deduced from the appearance of šammu ša "Aš" in a field (ib. 13). Most indicative is it that it has a gum.

Everything points to "Aš" being *Asa foetida* or some similar ferula. The name *Asa* comes from the Persian *aza* "mastich", which may represent "Aš". Its name "single" is comparable to Theophrastus, EP VI,ii, where he says that narthex (*asafoetida*) grows very tall and has a single stalk which is jointed (this last being referable to our "human-bone drug", doubtless from its similarity). In P *Asafoetida* is prescribed (p.196) for hysterical paroxysms (= "drug for screaming"?) and chronic bronchitis (= "gum for coughing"). IB 688 prescribes it for nerves, and as diuretic: Dioscorides prescribes silphion,

which is presumed to be of the same nature as asa foetida, for scrofula and eye-trouble (III, 84)

We have to consider, in identifying "Aš as exactly as possible, that asafoetida is already very satisfactorily identified with nuhurtu and tiyātu (p. 132 ff.). The plant lists give no indication that "Aš = nuhurtu; so that it may well be that "Aš is another kind of ferula giving a gum similar to asafoetida.

IB No 158 says that there are two kinds of andjodan (asa foetida), one white and sweet, the other foetid and black. The root of the former is called mahrut to which I have compared nuhurtu. The gum of the andjodan is ~~tiyātu~~ i.e. tiyātu. In EB II, 713 the sweet asa is the laser cyrenaicum.

With these two forms of asa, sweet and foetid, we must compare "Aš and "Aš.PI.PI ("foetid Aš", see p. 52 on the probability of "PI.PI = plant with disagreeable smell). "Aš.PI.PI (6), is prescribed in AM; anoint (95, 2 ii 9); drink (87, 1, 11 : 89, 1, 8); used for mouth and nose (28, 2, 11), and "when a man goes to his wife ... and to another woman goes", obviously an aphrodisiac, which IB 688 says, asa is. 89 CT gives "Aš.PI.PI = aštabelu; and some common property exists between "Aš.PI.PI and "lišan kalbi,

for [ʰAšʰ?].PI.PI utliš = "lišan kalbi (8.9AG, L. 277), i.e., [ʰAšʰ?].PI.PI in common speech = arno-glosson, or more probably in this case, Cynoglossum officinale, L., which is foetid (GM 345). Moreover, ʰaštabela[nu] = ʰlišan[kalbi] (PL 46, Rm. 203, r. 6), which confirms the comparison. But the connection of [Ašʰ?]PI.PI is only in the careless dialect of the common folk.

We have thus ʰnuhurtu (= ὄξυπύλον?), = tiyātu (πικύλλον, ἰσχυρόν) asafoetida (p. 132 f), and ʰAš and ʰAš.PI.PI^① as the sweet and the foetid asa, something similar if not the same, perhaps σιλφίον or laserpitium. L. 26 (pl. 31 of PT xxviii) confirms this admirably, in spite of the fact that it begins a new section:

"Drug of the woods = ʰla-sin-bi-tu, i.e. laserpitium.

But there appears to be some confusion in the later writers between the various forms. I propose, therefore, to translate nuhurtu and tiyātu as "asafoetida", and ʰAš as asa (dulcis) and ʰAš.PI.PI as asa (foetida).

We can now go on to ʰsupalu.

^①Note ʰAš+II (= ʰAš.PI.PI?), seed used (55, 47), and takAš+II (5).

The new texts allow us to continue the discussion on pp. 160-161, and to restore p. 10, § 9 R, 163-167. We have seen on p. 160 that *supalu* = *ZA.BA.LAM*, *Juniperus excelsa*: *erinu*, cedar; and is placed near *J. Oxycedrus* in a list. Consequently we may assume that it was a substance taken from different trees. The other equivalences (from the duplicates on p. 10 and p. 160 and CT. xxxvii, 31) shew that it is "a drug of flour" (*KU*), "a drug of the ground" (i.e., found on the ground?), "a drug of dough, paste" (*esi*, $\pi\theta\chi$ ^①, and *gabulu* 𐎧𐎺𐎠), "gum of dough" (*halbi esi*^②) something like *IN.NU.US* (savin, or perhaps tragacanth), something round, something which exudes(?). "Earth of the Moon-Crescent" (something which falls by night?). I cannot explain the equivalent "mal-lah-tum" (cf. p. 2, l. 8); it probably has nothing to do with 𐎧𐎺𐎠 .

Everything points, I think, to the correctness of the suggestion on p. 161 that *Manna* is the solution. Modern European manna (P. 759) is a concrete saccharine exudation from *Fraxinus Ornus*, L., etc.; Arab manna comes from the *tarfa* (*Tamarix gallica*), dropping on the sticks and leaves with which

① Not the tree *esi*, as I suggested on p. 161.

② I re-examined K. 4184, and Mr Smith has also collated his text with me. *Hal*, on the whole, appears to me to be the correct reading.

the ground is covered (= šami kakkari, like the manna of Ex. XVI, 14 which lay on the ground), and must be gathered early in the day lest the sun melt it (like the passage Ex. XVI, 21; cf "Earth of the Moon - Crescent", doubtless the same idea as in Ex. XVI, 4 "behold, I will rain bread from heaven"). The Hebrew manna was small and round (= "gil") and was prepared for food by ^{seeking} or baking ("drug of dough"). Another tree, a kind of oak, provides a manna near Mosul which is made up into a paste (see my chapter, Woolley, *Carchemish II*, p. 139, quoting Chesney I, 123; Olivier, *Voyage* IV, 273). There is, therefore, good reason to consider that supalu is Manna.

Now, since "IN. NU. uš = both supalu and maštakal, we might perhaps see in the latter ^{the} flaky gum of the astragalus (i.e. tragacanth) as an alternative possibility for Sabin (p. 199). Tragacanth has, however, little actual medicinal value except as a demulcent and to suspend powders in liquids. But, in spite of the fact that we have as yet no other candidate for the tragacanth, which is so common in the Levant, maštakal would seem to be ^{of} more value in medicine than tragacanth. If, however, this equivalence were correct maštakal (waštakal) would offer a plausible origin for the word astragalus.

LL. 33-36 restore p. 10, ll. 168-170, and augment what is said on p. 61, § 9 R. Uknatum must be the blue dye of the Isatis: l. 34, "ša-mi sir-pi" "drug for a dye" confirms this. "Ša-mi sil-ki in ll. 35-36 can hardly mean "vegetable for cooking," unless it was used as a colouring. Silki is more probably to be referred to سلق "cicatrice", سلاق "tumour", in accordance with Diosc. II, 215, where Isatis is prescribed for wounds, Rapadi is, of course, another disease, probably external (cf. maškadu, MA 603).

LL. 37-39 restore p. 10, ll. 171, p. 11, 172-173. "zateru = "šibburratu" "rue"; this must be زعتر, زعتر, زعتر "thyme", obviously (from the difficulty with the sibilant) a borrowed word, probably from the Assyrian. But Assyrian "thyme" is settled as zamburu and hašû, and we must therefore assume that the equivalence was changed when the word was taken over into Arabic. Obviously the meaning must be "rue"; 38-39 "LUH, MAR.TU" "Syrian wash", i.e., the lye obtained from the rue, Peganum harmala, L. - I have often seen the women burning the rue for lye at Carchemish (see my Pilgrim's Scrip, p. 310). "LUH, MAR.TU. KUR.RA will then be Ruta montana, Clus.

① This line is on the tablet, but very faint.

LL. 40-50 restore p. II, ll. 174-185.

LL. 41-50 give; with restorations from p. II:

| | |
|----------------------------|--------------|
| u zir(?) ekli | u a-na-me-ru |
| u inib | u ditto |
| u ša-mi LU.LU(?) HI.ZUM | u ditto |
| u ša-mi šup-[šū?]-hi imeri | u ditto |
| 45. u ti-ni-... ekli | u ditto |
| u ŠAR ekli | u ditto |
| u a-na(!)-me-ru | ka-li-pu |
| u ditto | u la-ka- |
| u ditto ut-liš | u UR.PI.PI] |
| 50. | kima u |

If "anameru be Još" rue" as suggested on p. 62, it will probably be R. graveolens, L. the fetid rue, since "in the common speech" it is "UR.PI.PI (PI.PI indicating a plant with a strong, and disagreeable smell).

LL. 54-61 duplicate of p. II, 9, 9v. In L.

51 me is curious; 152 u hal-la-me-su;

L. 53 u tu-lid(?) ...; L. 54 u ša-mi LUH(?) (drug for washing?) = "ka-...; L. 55 u ša-mi ? =

u ru-[uš-ru-šū]; L. 56 u ru-uš-ru-šū = u zu.

L. 57 u ditto ut-liš = u šit ...; 158 u ša-mi ekli

("drug of the field"); L. 59 u ki-da-...; L. 60

u ša-mi ...; L. 61 u IM.BU.

Cols. III-VI broken away. Col VII (II, p. 29) begins again with u šagabagalzu (cf. p. 17, 9 AP).

Ll. 1-4, part dup. K.8829, PL. 41. We must restore l. 2 u^{te}-ri-nu or u^{na}-ri-nu. Are we to see in the u^{ter}inu, uⁱnbu, and u^{na}rinu the equivalents of u^šaga^begalzu **ricinus?

Ll. 5 ff. dup. K.8829, 12 ff, PL. 41

| | |
|--------------------------------|-----------|
| u ti-bu-ti ekli arkitu | |
| u IB. NI. BAT ut-liš | |
| u me-sir (or sib-bu) UR.BAR.RA | |
| u ša-mi zi-me-te | |
| u KA.GIG.GA.GE | |
| u HAR.HUM.BA.ŠIR | |
| u NU. BU | |

Add here for comparison. K8829, 12 ff (PL. 41)

| | |
|------------------------------|-----------|
| u tim-bu-ut-ti ekli arkitu | |
| u NI. NE | |
| [u] KI. AN. MER | |
| . . . ša-ši-tu-na ša šadi(i) | |

u Tibuti ekli "ring of the field", applied, KU, GIG (KAR No. 203, r. IV, 11); esp. "yellow". "Root of NI, NE-plant, drink in oil and beer for cough (ib. IV, 30): u NI, NE for -li'bi, anoint in oil (ib. I, 43). u Mesir UR.BAR.RA "wolf-bond" almost suggests aconite, but the blue flowers do not coincide with "yellow" of l. 5. L. 9 "drug for toothache", with the "yellow" specification, would suggest Celandine (Chelidonium majus, L., for eyes and warts, P. 360, toothache Fernie, 84), but quite uncertain. For KI, AN, MER = kubru, see p. 201.

LL. 12-20, dup. p. 23, § 9 BK.

LL. 21-22, dup. p. 23, § 9 BL.

LL. 25-30, dup. p. 22, § 9 Bi, Bf in part.

LL. 31-32, dup. p. 22, § 9 CE.

LL. 33-34, dup. p. 22, § 9 CF.

LL. 35 ff, dup. p. 24, § 9 BN ff.

| | | | |
|----|-----|------------------|-----------------------|
| 35 | u | ELTEG | u-hu-[lu] |
| | u | ELTEG | u-ki-[il-tum] |
| | u | ELTEG SI | u-hu-lu (carni) |
| | u | SA, AT, GAL | u [sa-gi-lu-tu?] |
| | u | ELTEG kar-ni | u [pi-in kalbi?] |
| 40 | u | ku-di-me-ra-nu | u ku-[di-me-ru] |
| | u | ditto | u " [ina mâtu Hat-ti] |
| | u | ha-ra-zi šaš | u " [ina mâlu Hat-ti] |
| | u | ha-ra-zi-ur | u ša[hi]-lu-nu] |
| | u | kiš-ka-la ni-bat | u " [. . .] |
| 45 | [u] | TU. UR. BA. I | u [. . .] |
| | | | u [. . .] |
| | [u] | UR. PI. PI | u [. . .] |
| | | PP. 21 ① | u [. . .] |
| | | TE(?) | u [. . .] |

L. 40 gives us "kudimeranu for cardamom, and "harazi-š (= uš, the Hittite nominative, with ur in the next line, accusative) as its Hittite equivalent. "UR.PI.PI comes here, as I thought, on p. 24.

① "al-lu-zi? see p. 24.

Col. VIII (I), p. 28. P. 27 (8 9cc ff) and p. XVI (8 6, l. 125 ff) indicate an almost certain restoration of 8⁹cc from this present text, and conversely of Col VIII, 7ff. from 8 6. Also PL. 35, 79-7-8, 187, proper rev. (called obv.) restores U. 7ff.

[^ukam-me ekli pišû(u)]

^u tak Aš. HAR

[^ukam-me ekli arku]

^u ditto

[^ukam-me šadi(i) pišû(u)]

^u ditto

[^ukam-me gur-gur-ri]

^u ditto

^u ditto

^u ditto ina šu-ba-ri

With the equivalence of ^u tak Aš. HAR "plant of arsenic" (see my article, PRSM, 1924, 25), it is clear that my reading on p. 27 (^uKAN.ME) is incorrect, and should be kam-me, i.e. the kammu of PRSM 1924, 24, n²). In this latter passage I was wrong in translating kammu ša aškapi "gall of the shoemakers". It is, of course, the well-known "vitriol of the shoemakers", "shoemakers' black", chalcantum of Diosc, for dyeing leather, "copperas-water", the small scales separated from molten copper by the application of water (Bostock's note, Pliny, NH, xxxiv, 32). The Ar. شِيرَّة (K. 117) vitriol (which looks as if it were a better comparison for tak Aš. HAR than hadira)

used for tumours when dissolved in vinegar (IB. 1313) which some say (IB. 1080) is the vitriol of Iraq زجاج العراق known as vitriol of the shoemakers, according to some, green vitriol, to others yellow copper. The "vitriol of the shoemakers" is the Gk. $\mu\epsilon\lambda\alpha\nu\tau\eta\rho\iota\delta$ according to Ibn Djoldjol (ib.) and Leclerc remarks sub voce that the Arabs understand sulphate of iron and copper by زجاج. "Kamme gurgurri" = kamme of the metal-workers" (not the other gurgurru "rope" as I thought, p. 121) renders further proof unnecessary. The Semitic comparison is the neo-Syr. $\text{ܕܢܐܘܪܐ} = \text{ܕܢܐܘܪܐܝܢ}$, nigravit (PS 1751).

I was therefore again astray on p. 121 in suggesting "mallow" as the translation. We have to identify a plant called "White plant of vitriol of the field", "yellow (or green) ^{plant of} vitriol of the field", "white plant of vitriol of the mountain", "plant of vitriol of the metal-workers", all equal to "Plant of arsenic" (it being probable that agurru is a mistake).

Xanthium strumarium, L., (see p. 39) is not an improbable identification. It appears to have been used to dye things yellow; I was told in Basrah that it was used to dye things black. The *Xanthium* has green flowers, and *X. spinosum*, L., has white ^{on} the underside of its leaves (GM 312).

| | | |
|----------------|----------------------|-------------------|
| 16 | [u ...] ŠUR LI MU | u ... šī |
| | " " " " | u ditto |
| (small hiatus) | | |
| 20 | ... GAZ ... | |
| | u ŠUR . ŠUR | |
| | u ŠUR . ŠUR | u |
| | u TIN. TIR. UD | u |
| | u ša-mi lam-sa-te | u |
| 25 | u šī-par(?) gi na ra | u |
| | u TUR. A. NI | u ... -la- ... |
| | u AMA. A. NI | u šī - ... |
| | u ur- ba- te | u sa- a- [rum] |
| | u zir ditto | u [ku]n(?) - glū] |
| 30 | u ku-un- gu | u [g]u - u - rum |

L. 23 "white cummin, followed by "a drug for flies" is confirmed by Ebeling's text KAR 203, IV, 20 "TIN.TIR, a drug for NIM.NIM (=zumbé, flies), to be pounded and anointed in oil.

LL. 26, 27 see p. 27. LL. 28-30, see pp 23. L. 28 shows that my first reading for 𒌦 9B, l. 2 was probably right.

LL. 31 - 34 restore p. 25, 𒌦 9BU, BV

| | | |
|-----|-----------------------|----------------|
| 35. | u ŠE ^① BAR | u ud - ta - tu |
| | u ŠE. GIG | u ki. ba - tu |
| | u ŠE. BA. RA | u šu - |
| | u ŠE. BA. ' . RA | u ditto |

① K. 4588, PL. 32 and K. 8846, PL. 31 omit ~~u~~ down to l. 45.

| | |
|-------------------------------|--------------------------|
| u ŠE. GÚ. ŠA. HAR. RA | u kiš- še- ru |
| 40 u ŠE. GÚ | u kak- ku- u' |
| u ŠE [GÚ] DÙ | u ditto |
| u ŠE kak- ku- u | u(?) ab- ba(?) |
| [u ŠE]. GÚ. GAL | tu [hal]- lu- ru |
| [u] ŠE ap- šu & -an- gu | u [lál(?)]. - la- an- gu |
| 45 [u] ŠE lál(?) . la- an- gu | u šal(?) - me(?) - ru |
| [u Š] E. ŠIS | u . . . -su |
| [u] ŠE. KUD. DA | u . . . -tu |
| [u] ŠE ar. zik | u . . . -nu |
| [u] ŠE. LI. A | u . . . -gu |
| 50 [u] ŠE. IN. NU. HA | u [in- nin]- nu |

(LL. 51-55, cf. K.8846, PL. 31, U. 9 ff.).

For "uddatu" and "kibatu" see § 74. For "šū" "spelt" see § 10 CO, p. 125. "Kiššenu, obviously ~~FLORS~~ viciae spec. impr. Ervilia (Löw no. 170), the Ar. Kistina (v. nissoliana, Thuill.) of Ainsworth (Assyria, 35) prop. the Pers. of Löw, p. 228, (كيش) = ايسك (for the r with š, cf. 𐎠𐎢𐎽, kussu, 𐎠𐎢𐎽). "Kakkū (if correct) might be 𐎠𐎢𐎽 "beans" (?), i.e. kakkum. Cf. 𐎠𐎢𐎽 erwum. For "halluru" see p. 207. "ŠE. LI. A cf. "LI. A = dišu, p. 1. "ŠE. IN. NU. HA see p. 208.

2. A Note on LA, ~~𐎠𐎡𐎢~~, and Lurmu^{ku}

LA is used (a) of 'nurmû, "pomegranate", being applied to eyes (AM 12, 6, 8), kabartum (74, 1, 16) : for umsatum (17, 5, 9) : otherwise (66, 6, 8 : 74, 1, 21, iii, 16). It must obviously be the rind or pericarp so much valued for its astringent properties (PC XIX, 129), frequent in SM (see Index II, 784).

But what, then, is LA ~~𐎠𐎡𐎢~~ GA.ŠIR.HU (= lu-ur-mu(?), SAI 4355)? It occurs 16 tt. in AM. It is drunk for kidneys (39, 6, 9 : 39, 9, 3), for dyspnoea (59, 1, 15, 16, 26, 34, 41 : 60, 1, 5, 7, 9, 12, 14, 19) : drunk (58, 4, 11) : uncertain use (31, 1, 6 : 2 shekels, 62, 1, IV, 8). Clearly

it means literally "rind (=shell) of the egg of the lurmu-bird", Thureau-Dangin (Rituels accadiens, 784) having shewn that ~~𐎠𐎡𐎢~~ = "egg". Obviously the hard rind (LA) of the pomegranate represents the shell of an egg in such a passage.

At first sight, however the medicinal use of bounded egg-shells — to assuage some breathing-trouble does not seem plausible and yet, thanks to Ibn Beithar (392) the problems are settled at once: "the shell of an ostrich-egg pulverized as it is, without burning, mixed with honey and taken as eclegma is good against pleurisy". From this, then, it is but a step to see "ostrich"

in lu-ur-mu(?)^{Ru}. CT XIV, 47, 35503, r.3-4 gives
 karpatu A.ŠIK^①.GA.ŠIR.HU = "lu-ur-mu(?)
 karpatu A.ŠIK^① HU = "is-sur
 i.e., the equivalent almost for egg-shell china.
 The ostrich. The ostrich was common in Assyria
 (Xenophon, Anab., 1,5), and the shells of its eggs
 have been found on ancient sites (e.g., Bahrain, Bent, Proc.
 Royal Geographical Soc., N.S., XII, 1 ff.).

With the equivalence *lurnu* = "ostrich" as very
 probable, we can reasonably see its philological
 counterpart in *l'byl* "ostrich". Initial *n* varies
 with *l* (*lardu*, *nard*); *r* varying with *ayin*
 we must attribute to the difficulty of pronouncing
 a borrowed(?) word.

LA thus means "rind", "shell" (of egg), "almond(?)
 shell." Cf. "še of ^{rind?} shell (LA) of *styrax", apply (p.
 136), the styrax fruit being a dry drupe.

Lipū LAMUN (fat, shell (of?) salt) occurs 18,10,7

For an interesting use of *šā* "egg"
 cf. AM 17,5,2 *šā* kinni ša ina iršiti
 tab. ku "an egg (from a nest) which has been
 laid (?) on the ground"

— o —

3. A note on Johns' ADD, IV, 35, *musagilâte*.

This indicates an area in identifying the estate

in ADD I, No 383, l. 8. With our equivalence "*sagilatu*"

šā an alkali plant (p. 116) it must mean "fullers", i.e.,
 the fullers' field as in *šā* Ki, 17.

① The Assyrian is unknown; is there any relation
 between A.ŠIK (after being taken into Assyrian?) and

šā "testicles", parallel to Arab. *šā* "egg" and "testicle"?

- P. 32. "LPITU; cf. ni-i-mu = el-pi-e-tum
CT XVIII, 3, VII-VIII, 36 and 16, Rm 346 obv 10.
One meaning for نيم is "wood of which arrows are
made".
- P. 53. "EL = "flesh of serpent's head", p. 252.
- P. 77. On the difficulty of identifying harubu, cf.
𐎠𐎢𐎣 𐎠𐎢𐎣 𐎠𐎢𐎣 ὄξυάκωνθα, Löw, p. 139.
- P. 93, Last line: delete "This may account for its
rarity in syllabaries."
- P. 106. For pindû, cf. Holma, KB, 16, a skin affection.
- P. 117, l. 16 for lahlahi ŠAR read lahlahi ŠAR.
Possibly compare 𐎠𐎢𐎣 Portulaca oleracea.
- P. 137. Add to l 6 ("UD = the white plant), explained
on p. 261, l. 14 as "ša-mu pi-su-u".
- P. 145. ŠIM. GIG, CT. XVIII, 3, VIII-VII has also the values
(26) i-ta-ni-it-tim and (27) i-ti-ik-ni-tim.
- P. 175. For i-KIB CT. XVIII, 3, VIII-VII, 21 gives u-ni-it-ku

ADDITIONAL NOTE TO iNURMÛ, p. 176.

Some time after I had satisfied myself that
nurmû and not armânu was "pomegranate" I
received definite confirmation from an unexpected
source. Mr. C. J. S. Thompson, the Curator of
the Wellcome Medical Museum (Wigmore St.),
kindly showed me a late Babylonian contract
(No. 16780) for a collaette, a rough picture
of the ornament being scratched on the reverse.
I was much pleased to find that the collaette

was composed of pendants obviously pomegranates. I append a rough sketch of two of these as the Babylonian owner ^{or scribe} had drawn them

The text at once proved my identification:

l. 2 mentions XLI nu-ur-ma hurasi, the "41 pomegranates" of gold on the colla^rette.

The pomegranate was a common form of pendant in Assyria:



add a sketch of Nos 32, 33 in Case

D, Room IV, (Assyrian) in the British Museum.

PP. 13, 17, 73, 74.

KUŠAKKU?

[Ku?]šakku, p. 13, l. 232 very doubtful. "Kušakku" is ^{almost} certainly a due equivalent for the "great thorn of Canaan" (Pl. 46, Rm. II, 203, 9). P. 17, l. 321 "ku[šakku]" appears to be confirmed by p. 261, l. 12, (kiššutum)

p. 135.

NU.LUH.HA

Note in regard to the yellow dye that the *Ōdyid* brought from the Island of Thapsos was used for dyeing yellow (Liddell and Scott, Dict., s. v.). The *Thapsia* of Diosc. appears to have been *Thapsia Garganica* (Pc. xxiv, 282): *T. Silphium* is another of the same order (Umbelliferae). See Löw, No 118.

OLIVE (= "Elammaku?")

PP 132, 191.

A note should be added about the presence of the Olive in modern Assyria. Anah, and Taulk and Tuz Khurmati represent the farthest southern point in Mesopotamia (see Olivier, IV, 202 Ainsworth, Assyria, 495, etc.). E. S. Stevens, By Tigris and Euphrates, mentions them (p. 175, and cf. 180ff) after leaving Al Kosh on a journey from Mosul. But the olive is not common on the flats S. of Mosul, as far as I remember. It is possible that elammaku (= *ἔλαιος* ??) is the olive. See p. 185.

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LIST OF ABBREVIATIONS.

ADD = Johns, Assyrian Deeds and Documents,
 AF = Zimmern, Akkadische Fremdwörter,
 AJSL = American Journal of Semitic Languages.
 AM = my Assyrian Medical Texts. AR. =
 Arabic. Arch. = Archiv f. Geschichte d. Me-
dizin. BA = Beiträge z. Assyriologie.
 Bab.-Ass. = Meissner, Babylonien und Assyrien.
 BE = Babylonian Exped. of Pennsylvania.
 BFO = Boissier, Flora Orientalis. BMP =
 Bentley and Trimen, Medicinal Plants. BP =
 Bostock's Translation of Pliny. Br = Brün-
 now, List of Cuneiform Ideographs. Brock,
 = Brockelmann, Lexicon Syriacum. Chesney,
Exp. = Chesney, Expedition. CBG = Gilbert-
 Carter, Cambridge Botanic Garden. CT =
Cuneiform Texts from Babylonian Tablets.
 Culpeper = Culpeper, English Physician, Del.
 = Delitzsch, (Assyrische Handwörterbuch).
 Dict. = Dictionary. DA = Boissier,
Documents Assyriologiques. DB = Hastings,
Dictionary of the Bible. Diosc = Dioscorides,
 (ed. Sprengel). Div. = Boissier, Textes
Airvina toires. D.T. = Jastrow, Dictionary
of the Targums. Dup = Duplicate. EB = Encyclopa-
edia Britannica, XIth ed. EF = Forskål, Flora Aegyp-
tica. EP = Theophrastus, Enquiry into Plants. EXT = external
 FH = Flückiger and Hanbury, Pharmacographia. FHS = W.T. Fer-
 nie, Herbal Simples. FTP = Temple, Flowers and Trees of Pal-
-estine, Forskål (see EF). Gerarde = Herball (1597). Getr. =
 Hrozny, Das Getreide. GGA = Göttingische Gelehrte Anzeigen

GM = Gillet et Mame, Flore Française. Harper = R. F. Harper, Assyrian and Babylonian Letters. HBF = Bentham, Handbook to British Flora. HDIB = Hastings Dictionary of the Bible. Hdt = Herodotus. Herz(f) = Herzfeld, OLZ, Beihefte II. HKB = Holma, Kleine Beiträge. HPP = Henslow, Poisonous Plants. HRT = Langdon, Histor. and Religious Texts. HS = Fernie, Herbal Simples. HWB = Delitzsch, Assyrische Handwörterbuch. IB = Ibn Beithar (Leclerc, Notices des Manuscrits xxiii, xxv, xxvi). Ident. = Identification. INT. = Internal (ly). IMP = Kankoba Ranchoddas, Indian Medical Plants. ISA = Thureau Dangin, Inscriptions de Sumer et Akkad. JAOS = Journal of the American Oriental Society. JHC = Johns Hopkins Circulars. KAR = Ebeling, Keilschrifttexte aus Assur (Religiösen Inhalts). KB, Schrader, Keilinschriftliche Bibliothek. (see also HKB). Kü. = Küebler, Beitr. zur Kenntnis d. Assyr.-Babyl. Medizin. (i = K. 191. ii = K 71 B. iii = K. 61). Lane = Lane, Arabic Dictionary. Löw = Löw, Aramäische Pflanzennamen. M¹⁹⁰⁴, M¹⁹¹³ = Meissner, in MVAG, 1904, 1913. MA = Muss-Arnolt, Assyrian Dictionary. Maqlu = Tallqvist, Maqlu. MB = the plants in Merodach Baladan's Garden (CT XIV, 50). Mod. = Modern. MVAG = Mitteilungen d. Vorderas. Gesellsch. (N) = New Identification. Neb. = Strassmaier, Inschriften Nabuchodonosor. NH = Pliny, Natural History (ed. Bostock). NHW = Levy, Neuhebr. Wörterbuch.

LIST OF ABBREVIATIONS

253

O.T. = Old Testament. OLZ = Orientalische
Literaturzeitung. PBE = Babylonian Exp.
of Pennsylvania. PC = Penny Cyclopaedia.
P. = Squire, Companion to the British Pharma-
copœia, 1908 ed. PL = Plate number in CT, XIV.
Post = G.E. Post, Flora of Palestine. PRSM =
Proc. of the Royal Society of Medicine. PS =
Payne Smith, Thesaurus Syriacus. PSBA =
Proc. of the Society of Biblical Archaeology.
R = Rawlinson, Cun. Inscr. of W. Asia. RA = Revue d'Assy-
riologie. Re-ex. = re-examined. RT = Recueil
de Travaux. SAI = Meissner, Seltene Assyrische
Ideogramme. SH = Sarre and Herzfeld, Archäo-
logische Reise. Sem. Mag. = my Semitic Magic.
SM = Budge, Syriac Book of Medicines. S.V.
= sub voce. TA = Tell el-Amarna.
VK = Rhind, Vegetable Kingdom. Von
Opp. = Von Oppenheim, Vom Mittelmeer zum
Persischen Golfe. WPI = E.J. Waring, Pharmacopœia
of India. WBMI = E.J. Waring, Bazar Medicines
of India. ZA = Zeitschrift für
Assyriologie. ZK = Zeitschrift für
Keilschriftforschung.

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